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AMATEUR RADIO

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EDITORIAL

★

HAPPY NEW YEAR

The Federal Council, Federal
Executive and Divisional Councils
extend New Year Greetings to mem-
bers of the Wireless Institute of
Australia and to outside readers of
our magazine—"Amateur Radio."

As 1961 heralds the space age, now
coupled with the ever-expanding
electronic field with its hunger for
radio frequencies, Amateur organ-
isations all over the world must be
united in their efforts to fight for
the preservation of hard won fre-
quency allocations to the Amateur
Service.

In order that a Society can do this
it must have finance, and to have
finance it must have membership.
It is the obligation of every Amateur
in this age of the science to be a
member of his Society regardless
of his personal belief concerning its
activities and what it appears to do
or not to do for him.

The Amateur Society in every
country is doing a lot—and must
continue to even greater efforts in
the future—if Amateur Radio is to
maintain a place in the sun. If every
Society fights for the protection of
the Amateur Service, then every
Amateur is deriving the benefit of
its effort and for this reason alone
should be a member.

You, the member today, can do
your part by encouraging Amateurs
who are not members to join the
W.I.A. in Australia and become the
members of tomorrow. It will be too
late in the years ahead to say the
W.I.A. should have fought your case.
Only membership can provide the
finance to do that, so start in 1961
to enlist one new member by telling
him what this Institute is doing for
the Australian Amateur.

—FEDERAL EXECUTIVE.

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S-5018	1N1238	1,600	550	8	750	1½"	3-7/32"	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5V4, 5Y3
S-5019*	1N1239	2,800	1,000	5	500	1½"	4-5/16"	5R4
S-5033	1N1262	4,500	1,600	2.5	250	1½"	4-5/16"	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 17AX4
S-5130	—	10,400	3,500	3	300	1-7/16"	5½"	866, 866A, 3B28
S-5207*	1N2490	1,600	550	5	500	13/16"	1½"	6X4
S-5251	1N2389	1,600	550	6	600	1-3/16"	2-3/16"	5U4, 5Y3, 5AU4, 5W4, 5Z4, etc.
S-5343	—	7,000	2,500	3	300	1-7/16"	4½"	816, 836, 3B28, 866 at reduced Voltage
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* Hermetically sealed. All ratings are for capacitive input filter.

- ★ Ratings shown are maximum and not design centre figures.
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SIMPLIFIED METHOD OF DETERMINING MODULATION TRANSFORMER RATIOS

L. H. VALE,* VK5NO

★ Here is a scheme to permit the use of that power transformer as a modulation transformer. However, certain factors must be taken into account in modulator design and this article gives a few practical shortcuts which may help.

THE normal method of determining the correct turns ratio of a transformer coupling a push-pull modulator to a Class C final is to take the optimum plate-to-plate impedance for the modulator from the manufacturer's data on the modulator valves and calculate the impedance of the Class C stage by dividing its anode voltage by its anode current; the turns ratio is the square root of the ratio of these impedances. Most commercially available transformers are labelled in terms of impedance values in any case.

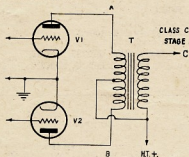
This has led to the establishment of two schools of practice, on the one hand we have those who use transformers whose winding impedances¹ are rigidly correct, and on the other, those who, because of necessity, use any old power transformer as a modulation transformer, in some cases with good results.

A much more simple approach is to think in terms of turns ratio and peak voltage swings only. This leads also to a "universal" modulation transformer of much simpler design than the multi-impedance devices generally considered necessary, particularly if the same plate voltage is used on both modulator and final, as in most Ham rigs.

Consider the normal modulation transformer circuit where V1 and V2 are modulator valves and T is the modulator transformer. The object of the modulator is to swing the secondary voltage between values of zero volts and twice the h.t. voltage, for 100% modulation. When no audio is applied to the grids of V1 and V2, their anode voltages are both at the same value of approximately the positive high tension voltage (for the purposes of this discussion we should neglect small resistance losses, etc.). If an audio signal is applied to the grids so that V1 becomes more positive and V2 grid more negative, then V1 plate swings negatively and V2 plate positively. The transformer primary acts as a "see-saw", and ensures that the negative swing at point A is the same as the positive swing at point B and a corresponding audio voltage is developed at point C. If the turns ratio of one side of the primary to the secondary were one-to-one and point A swung down to zero volts, then point C will also swing down to zero volts. On the reverse side of the audio cycle, when V2 grid becomes positive, V2 anode (point B) swings negatively and points A and C positively; if point B swings down to zero volts, point C will swing up to twice the h.t. supply voltage. So, if we could obtain modulator valves that bottom down to zero volts when the grid swings positive, then a modulation transformer of one-to-one ratio will

give us correct matching for 100% modulation under all reasonable conditions of secondary loading.

Fortunately, almost all of us use high efficiency modulators; either pentodes, beam tetrodes or Class B triodes. They have high efficiency because the anodes swing to low voltage values on negative swings—not quite to zero unfortunately, but in general to below a fifth of the high tension supply voltage. So that instead of a one-to-one transformer ratio, a turns ratio between one half the primary to the secondary of four-to-five will enable one to get 100% modulation (or so close to it that the difference cannot be heard) provided that the modulator and final are running at about the same voltage. It is as simple as that.



So, if you've got an adequately sized transformer with 250 primary and 200 a side secondary, you've got a reasonably good modulation transformer. If it is 300 a side, then you'll not get more than about 70% modulation before the modulator overloads, but that's only half an S point down anyway. It's better to take the laminations out of a power transformer and put them back all in the one way without interleaving, but that's hardly in the scope of this article.

But, you ask, if this magic turns ratio of four-to-five is all that is needed, why go to all the fuss of the normal design method anyway? If you'll go to the trouble of calculating the correct transformer ratios for 100% at maximum modulator output (using the same h.t. voltage on both stages) you'll find that the four-to-five ratio is generally very close to correct. But we seldom use the full audio output of our modulators; in the normal method the optimum load is always presented to the

modulator but the anode swings are reduced; in this simplified method the anode swings keep at their high value but the load impedance on the modulator is increased according to the output requirement. In some cases one method results in less distortion, in some cases the other.

One thing that this simplified method does, incidentally, is to reduce splatter—the modulator starts to overload before the final is badly overmodulated and a harmonic filter after the modulator makes a reasonably clean signal, even though the modulator is being badly overdriven.

If you can think of modulation transformers in terms of voltage ratios and turns ratios instead of impedances, you can get rid of a lot of the complications.

According to the valve manufacturer's data on valves such as KT88s, 6L6s, 807s, 6V6s, etc., the use of a four-to-five ratio (half primary to secondary) transformer will give results varying in the worst cases from obtaining 93.5% modulation to using 85% of your available audio power for 100% modulation. In most other cases, as we would expect if the earlier reasoning is valid, the turns ratio of a transformer designed by the normal method to modulate an r.f. stage of twice the undistorted output of modulator is actually four-to-five (half primary to secondary).

If you have a modulator capable of giving over half the class C input power, and you use the same voltage on both, a big enough transformer with a ratio of four-to-five (half primary to secondary) will do your job. If your Class C supply voltage is twice that to the modulator, then the ratio becomes four-to-ten, and so on.

Wireless Institute of Australia

Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 2nd FEB., 1961

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: JA 3535, 10 a.m. to 3 p.m.), or the Class Manager on either of the above evenings.

* 573 Main North Rd., Elizabeth North, S.A.
1 A transformer has theoretically no impedance, it merely transfers an impedance on its primary to reflect an impedance on its secondary. This is a function of the square of the turns ratio. A 2:1 turns ratio transforms a 4:1 impedance ratio.

A CRYSTAL CONTROLLED CONVERTER FOR 50 Mc. USING 12 VOLT H.T.

J. L. OCCOLOWITZ,* VK3ZAI

WITH the advent of hybrid tubes and transistors for use in mobile work and the disappearance of h.t. sources, a need has arisen for auxiliary equipment to work off a h.t. supply of 6 or 12 volts.

On the receiving side the equipment may be fully transistorised, but the cost can be high, especially for v.h.f. equipment, whilst for transmitting above QRP level tubes still are a must.

The converter described here should find use for those interested in mobile 50 Mc. reception only, where a 100v. h.t. may not be available. Although it cannot compete with transistors on a current drain basis, it compares very favourably in cost with a converter built from transistors and using the same number of stages.

● A simple efficient way of going 6 metre portable in your car, by feeding the output of the converter to a car radio receiver. Using 12 volt h.t., it poses no power supply problems.

CONSTRUCTION AND ALIGNMENT

The converter was made with the three tubes in line on an 8" x 3½" chassis. L1, L2 and L3 were positioned mutually perpendicular; the rest of the wiring follows the 3ZAI rats' nest form and need not be further described.

To align the converter put heater voltage on all tubes and h.t. on the overtone oscillator only, and tune for a

dip in plate current or maximum signal on 23.5 Mc. Then apply h.t. to the multiplier and tune for plate current dip or maximum signal on 47.0 Mc.

With h.t. on all stages, peak C1, C2, C3 and L2 for maximum signal strength on a 50 Mc. signal. Remove h.t. from the neutralised triode stage and with a strong signal tune Ln for a null in signal strength. Reconnect the h.t. and, if necessary, repeat the r.f. stages.

[In constructing this converter it will assist if a shield is run across the first 6ES8 socket in such a manner that it isolates the input triode from the rest of the circuit. Short, direct, well soldered earth connections will make for greater stability. The 6ES8 should be so orientated that pins 1, 2, 3 and 4 are used as the first triode, and the shield should run between the pins 1 and 9, and 4 and 5; this shield must be solidly earthed. A hole through the shield carries the connection between the cascade sections.—Ed.]

Table 1.—Characteristics of 6ES8 Triode measured on "AVO" Tester.

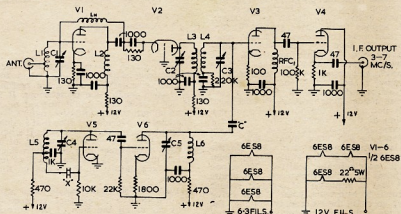
Ep. (V.)	Ip. (mA.)	—Eg. (V.)	Gm. (mA./V.)	Nearest Equivalent Valve Type compared on Gm. basis.
125	18.5	2.0	11.8	
125	14.0	2.5	9.2	
50	1.5	2.0	3.4	12BH7A, 6CG7, ECC40
50	2.4	1.5	5.0	ECC81, 6J6
50	5.0	1.0	9.0	
50	10.0	0.5	11.7	E88CC
20	0.3	1.5	1.2	ECC83
20	0.7	1.0	4.1	ECC81 (Va. = 100v.)
20	2.4	0.5	6.1	
20	3.6	0.3	5.2	ECC84, 6BQ7A, ECC85, ECC81,
20	3.0	0.4	5.7	6BC8, E180CC, E92CC, E90CC.
20	1.7	0.6	6.0	

Current drain is 0.9 amp. at 6.3v. for the filament supply and 0.15 amp. at 12.6v. for h.t. If a 12.6v. filament supply is used, filament current will be 0.6a. however by using a crystal whose third or fifth overtone requires no multiplication to generate the injection frequency, and by omitting the cathode follower stage, one 6ES8 may be omitted to halve the current drain to 0.3a. at 12v. Noise figure and gain with 12v. h.t. are comparable with a conventional converter using 150v. h.t.

The 6ES8s used were manufactured for use as high gain cascode r.f. amplifiers in t.v. front ends. Although they are designed for 125v. operation, they still have quite a usable gm. at low plate voltages (Table 1). Tests have shown that the converter will operate reliably at 5v. h.t., but with lower gain and power noise figure.

The i.f. frequency is arbitrary and was chosen in this case to work into a d.w. transistor receiver that I hope a kind and benevolent friend will be bringing from overseas. By using a 5.5 Mc. crystal, which will operate on its third overtone, a b.c. receiver could be used to tune the first megacycle of the band.

*128 Gaffney St., Coburg, N.13, Vic.



"C"—Nylax covered 10/010 fused together 1 in. All capacitors disc ceramic, values in pF. All resistances in ohms. C1, C2, C3, C5—1.5-8 pF. ceramic t.v. type trim. C4—50 pF. trimmer. RFC1—2.5 mH. r.f. choke. L1—9 turns ½ in. diam. No. 21 B. & S. ¼ in. long, tapped 3 turns from earth. L2—13 turns No. 21 B. & S. on ½ in. diam. slug-tuned former.

L3, L4—10 turns ¼ in. diam. No. 21 B. & S. ¼ in. long. Cold ends ½ in. apart. L5—12 turns ¼ in. diam. No. 21 B. & S. 1 in. long, tapped 3½ turns from xtal end. L6—13 turns ¼ in. diam. No. 21 B. & S. ¼ in. long. L7—9 turns No. 28 B. & S. close wound on ½ in. slug-tuned former. "X"—23.5 Mc. on third overtone, or to suit i.f.

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The SCR211 Frequency Meter Series

C. G. HARVEY,* VK2AQU

HAVING owned and operated the famous "211" type frequency meter for more years than I care to remember, I had subconsciously come to regard all such boxes as secondary frequency standards, unlikely to lead one astray as long as the crystal was kept on WWV—and one used the right calibration book!

However, a difference of opinion with a P.M.G. monitor as to where the band edge was, revealed that although the crystal was on WWV, the heterodyne oscillator was nearly 3 Kc. out at 7150!

The subsequent witch-hunt disclosed a number of facts about these popular and expensive frequency standards which may not be generally known. First, the leading particulars:—

Output	2000 μ volts
Accuracy	$\pm 0.034\%$ at 4 Mc. (i.e., 4.7 Kc. at 14 Mc.)
Accuracy ± 180 c.p.s. at 125-250 Kc.	
Accuracy ± 985 c.p.s. at 2 Mc.	
Greatest Error	at 4 Mc. and —30 C (and harmonics)
Minimum Volts	121 h.t., 5.4 Fil.
Output Impedance	2500-15000 ohms

Certain of these are worthy of further discussion, particularly as the principles apply in greater degree to Amateur v.f.o.s. First, the basic design accuracy: The Handbooks for these equipments say the following errors may occur individually or simultaneously even in correctly adjusted equipment:—

Small shocks, through panel pressure, dial thrust, etc.	± 100 c.p.s.
Effect of dial lock	± 30 "
Warm up	± 100 "
Changing load on antenna post	± 50 "
10% drop in h.t.	± 325 "
5% change in temperature	± 325 "
Calibration error	± 500 "
Crystal error	± 250 "

These add up to a possible 1.68 Kc. error at 4 Mc. (and nearly 8½ Kc. at 20 Mc.), if all effect apply in the same direction simultaneously. A fair average figure for normal operating environments is about 50% of the total figure. (This is Mr. "Bendix" himself speaking.) However, I'm told some meters have a bimetallic shorted-turn inside the heterodyne oscillator inductance for partial temperature compensation. If this seizes or binds, additional erratic errors will occur.

Not all the so called "crystal" check points are crystal harmonics! However, because the calibration curve is nearly straight when it leaves the factory, the difference between dial measurement of any frequency, using adjacent crystal check points, should be closer than 1.8 divisions on the low frequency band, and 1.2 divisions on the high band. I hope your meter checks out on this, because mine doesn't. An unsuspected deviation here can be the cause of inadvertent out-of-band s.s.b. operation, when each dial division represents a kilocycle and a bit.

* 52 McCauley Avenue, Glenbrook, N.S.W.

★ An informative article highlighting the fact that in any measurement, it is essential to know the accuracy of measurement and the probable tolerances of inaccuracy. Must reading for all owners of BC221 meters.

By the way, unless your meter has been modified to include a shield around the base of the crystal socket, you may not be able to determine zero beat against the crystal accurately. It should cover 0.1 division at 2 Mc., but without the shield is usually at least 0.3 division wide!

The crystal itself is supposed to be factory trimmed to within 5 c.p.s. of 1 Kc., at 20° Centigrade (i.e. 68°F.), but remember that although earlier meters had spare crystals supplied, only those identified as DC9N or higher can be interchanged without calibration difficulties in meters with the same suffix (N or higher).

The corrector capacitor for the heterodyne oscillator has been changed in later models from 1.8-3 pF. to 2.4-4.5 pF. to increase the ability to correct error found to occur in field service.

You may be surprised to know that the tubes in the meter are not "matched". In fact the grid of the electron coupled heterodyne oscillator is purposely tapped well down the coil to minimise the effect of tube capacitance. Oscillator tubes with low loss bases were used once, to minimise humidity troubles, but stock tubes are acceptable. For those who have lost their VT conversion list, the tubes in general use are:—

VT116	6SJ7
VT167	6K8
VT116B	6SJ7Y (low loss base)
VT77	77
VT76	76

Perhaps you are wondering which harmonics are used for calibration if the basic calibration is 125 Kc.-250 Kc. and 2000-4000 Kc.? For low frequencies, the harmonics used are 2nd, 4th and 8th. For the high band, the 2nd, 4th and 5th harmonics do the job. The 3rd, 6th and 12th are there in force, but are not calibrated. Under high temperature and humidity conditions, there may be sufficient shift of the heterodyne oscillator, to prevent zero beat correction by means of the corrector. This can be fixed in the shack, if you are game, but remember disturbing the heterodyne oscillator circuit can involve you in a recalibrating job. There are 1251 low range calibrations and 2001 on the high range, so take it easy!

The 160 pF. calibrated condenser is shunted with 7-10 pF. thermal trim, 10 pF. preset trim as well as the panel corrector. Set these as follows: Warm up for 20 minutes. On crystal check, set up 250 Kc. with corrector to mid scale (5.5 divs.). Rotate the "low" trimmer for zero beat. Then check all the

crystal check points to see if zero beat can be reached at all of them. If it can't, because the corrector reaches 10 first, check for correct filament and h.t. volts. If these are OK, repeat the trimmer adjustment, but with the corrector set 1 (or 2) division left of mid scale. (If the corrector reaches 1 in similar circumstances, set up with the corrector the required amount right of mid scale.)

Having practised on the low range, have a go at the high range, using the same procedure on 4000 Kc., and of course the "high" trimmer.

Finally, unless you own a BC221 AF or AH, which was designed for low impedance HSSD phones, go ahead and use any phones handy—low or high makes no difference to accuracy or output.

"Bendix" type equipments are well built and well designed, but are not primary standards. Sporadic checks of the crystal on 5 and 10 Mc. won't make them so either. To be safe near band edges, particularly on frequencies above 4 Mc., better get some positive checks on calibration, and make proportional allowance for the unavoidable errors caused by temperature, calibration, etc. And better have another think about that v.f.o. that "doesn't drift"!

[The official handbook (Publication 5341-CH1-42) states: "The equipment provides accuracies of 0.01 per cent. or 25 cycles, whichever is the greater, at any temperature in the range from minus 22 to plus 122 degrees F. When connected as previously described, the heterodyne oscillator frequency will agree with the calibration book (to within the reset accuracies stated in par. 1) throughout the range of frequencies to which this particular crystal check point applies, provided, that the ambient temperature does not vary by more than $\pm 5^\circ\text{C}$., the filament and plate voltage do not vary individually or collectively by more than $\pm 10\%$." Thus the SCR211 series is capable of being reset to within 25 cycles or 0.01% whichever is the greater error. They are not accurate to the above tolerance, as explained by the author.—Ed.]

ONE MORE NEW COUNTRY

A dipole quivers in the breeze
The hours fly on by,
A superhet, is running hot,
The listener heaves a sigh.
Where's that elusive signal from HQ7Z
It should be there on 14 megs,
The DX column said.

He tunes the band from high to low
And tunes back up again.
It's getting cold, he's feeling tired,
But there he still remains.
Then all at once a whisper
Impinges on his phones,
He strains his ears to catch the words,
His eyes no longer roam.
Then downs his pencil with a smile
And turns the power off.
He's worked one more new country,
Although he's caught a cough.

—I. Hunt, VK5QX.



The WARBURTON FRANKI Page

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Stereo, £17/10/0	
COLLARO RP594 Stereo Record Player	£14/4/5
DUAL: 300 Record Player, Monaural	£18/16/0
300 Record Player, Stereo	£20/2/0
1005 Record Changer, Monaural	£25/5/0
1007 Record Changer, Stereo	£26/15/0
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RC210 Record Changer Monaural	£20/17/6
RC210 Record Changer, Stereo	£21/5/0
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301 Transcription Turntable, superseded model,	
three speeds	£32/10/0
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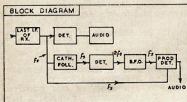
A METHOD OF RESOLVING D.S.B.S.C.

IAN MacMILLAN,* VK3ZDG

A RECENT article in "A.R." regarding the synchronous detection of d.s.b. signals prompts me to point out that there is another method which may turn out to be somewhat simpler.

First I will re-state the problem. With s.s.b. not only is the exact frequency of the re-inserted carrier, at the receiver, not important (you can read it even if the b.f.o. is 100 cycles off in the suppressed sideband direction; somewhat less in the other direction), but the phase of the carrier is not important.

With d.s.b., not only has the injected carrier got to be on the right frequency, but it has to be in the correct phase. The only way to achieve this is to synchronise the b.f.o. with the signal in some way.



One method was described in a recent "A.R.," and I propose to outline another method.

Suppose we have a d.s.b. signal on 100 Kc. and our modulation is a pure sine tone of 1 Kc.

The resultant signal consists of a sideband at 99 Kc. and another at 101 Kc., while the carrier is, of course, suppressed.

If we feed this signal to a square law detector we will obtain a 2 Kc. note (101 - 99 = 2) under normal circumstances. But suppose we put a tuned circuit in the anode of the detector at 200 Kc. We can then select the sum of the two sidebands (99 + 101 = 200 Kc.) and if you look at the idea closely you will see that the sum of the sidebands for any modulating frequency is

200 Kc. Of course there will be all sorts of other frequencies present—harmonics, etc., but the important thing is that there is a signal present on twice the carrier frequency no matter what sort of audio is applied to the signal.

Now, it is a fairly well known fact that an oscillator will synchronise quite nicely to a signal on twice its frequency.

You get the idea? Good, now let's have a look at what sort of a circuit might do the job.

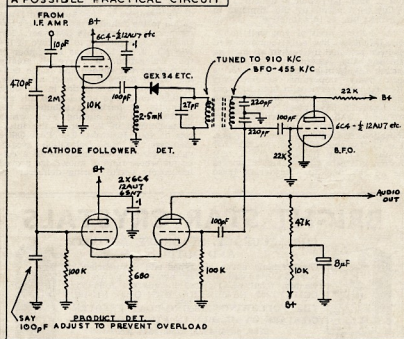
It is suggested that the tuned circuits consist of a modified standard i.f. transformer. You may find that better

locking is obtained if the d.s.b. signal is tuned slightly to one side, as not using a square law detector, the sum frequency may not be sufficiently strong when both sidebands are of equal amplitude.

I have not actually tried this, but extremely clued up gentlemen whom I have consulted have h'mmed and grunted, and assured me of its practicability.

When I get around to mounting the bits in a chassis I bought for it some months ago, I may write on it again, and give you some facts and figures. ●

A POSSIBLE PRACTICAL CIRCUIT



*1 Norfolk Rd., Surrey Hills, E.10, Vic.

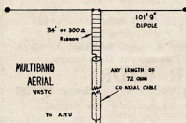
A MULTIBAND ANTENNA

Extracted from the South Australian Division W.I.A. Journal.

DETAILS of a simple multiband aerial using co-axial feeder. This antenna was designed by Louis Varney, G5RV. It works all bands, 80 through to 10 metres, with low standing wave ratio on all bands except 15 metres.

Aerial consists of 101 ft. 9 in. dipole as shown. The antenna is three-quarters wavelength on 40 metres and the 34 ft. matching section matches the dipole impedance to that of the co-axial cable.

Alternatively, the antenna may be fed via an antenna tuning unit direct into the 300 ohm feeder.



The antenna can be loaded into a normal pi-network arrangement without difficulty.

The use of 300 ohm open wire feeder is recommended for the matching section; this can be constructed of 14 B. & S. wire spaced at about 1 inch, giving an impedance slightly over 300 ohms. Spaces can be ceramic, paxolin or similar material, but perspex should not be used. No difficulty has been experienced with this open wire feed, and results on all bands have been gratifying. ●

—G. T. Rylatt, VK5TC.

P.M.G.'s. Message to Amateurs

The following is a copy of the Postmaster-General's (Mr. Davidson) message to Australian Amateurs, given through Senator Hannan, at the recent Victorian Division of the W.I.A. Annual Dinner, on Friday, 25th November, 1960.

Mr. Chairman and Gentlemen,

"The Postmaster General (Mr. Davidson) who, unfortunately, was unable to visit Melbourne because of official Ministerial commitments, has asked me to express his personal appreciation of the thoughtfulness of the Victorian Division of the Institute in extending to him an invitation to be present at your Annual Dinner and to convey to you his best wishes for an enjoyable and successful evening. Whilst I share your disappointment at his absence, might I say that I feel particularly honoured in having been asked by the Minister to represent him at this function.

"As I think most of you well know, Mr. Davidson has ably demonstrated his keen personal interest in all matters affecting the Australian Post Office. During his term of office there have been many important developments affecting radio services in both National and International fields. Some of these developments have posed very difficult problems and, in particular, have focussed considerable attention on the limitations of frequency spectrum space. It is in this connection, of course, that members of the Institute have a very special interest. Mr. Davidson wishes me to say that in considering these

problems he has come to learn and appreciate a great deal of the history and development of the Institute and its membership since its inception, and fully recognised the important contributions the Institute has made and will undoubtedly continue to make towards the development of radio services in this country. In particular, the Minister asked me to pay tribute to the enthusiasm and unselfish devotion of members in times of emergency and to acknowledge on his behalf the value of having a trained force in such an important field of activity.

"The Postmaster-General has been most impressed with the close interest and enthusiasm displayed by members of the Institute in regard to apportionment of the frequency spectrum and welcomed the proposal to include one of its members in the Australian Delegation to the Administrative Radio Conference in Geneva late last year. Mr. Davidson was pleased to approve of the late Mr. J. M. Moyle as a member of that Delegation. We were all greatly shocked at the sudden and tragic ending which followed so soon after Mr. Moyle's active participation in the work of that conference and I take this opportunity of paying a tribute to the untiring and the stirring work which he performed in furthering the interests of your Institute. The Post Office members of the Delegation greatly valued Mr. Moyle's assistance as a colleague whose fund of knowledge proved immensely useful during deliberations.

More importantly, too, they came to value him as a close personal friend.

"By the very nature of its vast distances, Australia lends itself uniquely to the employment of radio as a communication medium and make considerable use of the frequency spectrum, both for internal and international purposes. With the sustained commercial and industrial development now in evidence, even greater demands must be expected and all practicable steps must be taken to secure the most economic use of the spectrum by utilisation of the latest techniques and developments. The intensification of the demand on the spectrum in recent years has greatly increased the complex task of allocating frequencies and, as members of the Institute know, following a recommendation by the Postmaster-General, the Government constituted a broadly based frequency allocation review committee under the Chairmanship of Professor Huxley to examine the situation thoroughly with a view to ensuring the most equitable distribution among the many users of radio services and to consider measures which can be applied for meeting future demands. Membership of this Committee had, of necessity, to be restricted to major interests and it is gratifying to record that the Government recognised the importance of Amateur interests by including a representative of the Institute as a member of this important body. The Committee is applying itself to the many problems which have to be considered and the results of its investigations will be awaited with a great deal of interest.

"Mr. Davidson has asked me to make special mention of the cordial relationship which has existed between members of the Institute and officers of his Department. This has continued over many years and shows no sign of diminishing in spite of divergent opinions which must inevitably arise in dealing with frequency allocation and other problems. The Minister believes a great deal can be derived from a continuance of such a relationship so far as the Post Office and the Institute are concerned and has asked me to add that Departmental officers are always appreciative of the ready co-operation they receive from representatives of the Institute whenever there are problems of mutual interest requiring consideration.

"On behalf of the Postmaster-General, and on my own behalf, may I express the hope that the Institute will continue to grow in strength, and may I take this opportunity of extending Seasonal Greetings to all members of the Institute and its Executive."

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50 Mc. W.A.S.

Call	Cer. Add. No. Ntr.	Call	Cer. Add. No. Ntr.
VK2WJ	13	4 VK2AEZ	10
VK3PG	5	3 VK3XA	11
VK3VW	9	2 VK3GM	12
VK4RY	2	2 VK3ACL	14
VK4HR	4	2 VK3ZD	16
VK5LC	1	1 VK3HO	17
VK6DW	3	1 VK2ABC	8
VK3RR	6	1 VK2WH	15
VK3HT	7		

HINTS AND KINKS

EXPERIMENTS WITH COMMAND RECEIVERS

Many Hams use Command receivers as tunable i.f.s. but find that the receiver is too broad and still only get about one inch or less of the dial to cover the band. Well here we have experimented with a 6-9 Mc. Command receiver.

Firstly, I removed all except two of the rotor plates in each section of the main tuning condenser. Additional trimmers (3-30 pF. Philips) had to be placed across each section in order to retain coverage of the 40 metre band.

This reduced the coverage of the receiver from 6-9 Mc. to 6.8-7.9 Mc. This will be ample for most converters even in the v.h.f. region. No other changes at this end need be made.

The tuning dial may be recalibrated or in my case the drive was disconnected and a vernier dial connected directly to the gang shaft at the side.

To increase the selectivity somewhat, a 175 Kc. i.f. was substituted for the last 2.83 Mc. i.f. The 12SK7 i.f. amplifier before this i.f. was re-wired for a 12K3 converter.

The coil former in the discarded i.f. was removed from the can. The pie winding was removed, leaving the single layer intact. Three turns of hook up wire were placed over this as a tickler coil and a 3-30 pF. across the winding made up the oscillator coil.

Any circuit in ARRL or out of your head will work. The oscillator is quite stable providing the leads are not too long.

By removing the i.f. stage, one of the condensers screwed to the side can be discarded so the oscillator coil can be mounted in its place.

Total cost? One 175 Kc. i.f.

More experiments are in progress so I will let you know the results in a later article.

—J. E. Barker, VK3ZCJ/T.

PORTABLE SIX METRE BEAM

I am going to build a 6 metre portable beam. As the width of the beam makes them awkward for transport, I have thought of a way to quickly assemble and dismantle the beam. The beam will be 10 ft. long with four elements. I am going to attach $\frac{1}{2}$ " dural tubing through the element support bar. This $\frac{1}{2}$ " dural will only extend about 6" either side of the support, up to about 12" for the driven element, if it is to be Gamma matched for 6 metres.

This is the method I intend using, with co-ax cable to the transmitter. To make up the additional length of the elements, use $\frac{1}{2}$ " dural, which will fit tightly into the $\frac{1}{2}$ " dural. The various elements can be marked so that they don't get put into the wrong position.

The $\frac{1}{2}$ " elements are pushed as far as they will go, until they reach the bolt holding the $\frac{1}{2}$ " tube to the element support tube. This method of sliding one element inside the other makes it easy to adjust the aerial for different sections of the band. Nicks can be cut in the elements to show how far they

need be pushed in for various frequencies. This idea would work alright on other bands, 2 metres in particular.

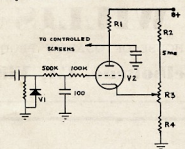
The pole used to support the beam would be a 12 or 16 ft. long 2" diam. dural tube. This would get the beam a reasonable height above ground and would give quite good results from a hill top. A bigger beam could be constructed, but it would start to get a bit cumbersome.

—Rodney D. Champness, VK3ZCD.

A SUPPLEMENTARY A.G.C. SYSTEM

The idea of twin a.g.c. systems, or this system in particular, is not new. However, as well as being effective, it is economical and will control straight valves (i.e. non variable mu types). An improvement in regulation is obtained since the load is held more constant.

Briefly, this system uses a positive a.g.c. bias to control a d.c. amplifier which varies the screen voltage of the controlled stages. The d.c. amplifier should be a valve having high gain, not too short a grid base, and able to carry the maximum current involved.



The a.g.c. take off point is preferably the primary of the last i.f.t. V1 was a thermionic diode, but could be a crystal unit. V2 is conveniently a pentode strapped as a triode. R1 is the screen dropper, and its by-pass. (This will probably need a higher wattage component than original.) R2, R3 and R4 pass at least 5 mA. for stable operation. R4 provides protective bias, and R3 sets the operating point. If the valve is just cut off there is no delay, but if bias is increased a delay is introduced.

Action is as follows: Under no-signal conditions, R3 is adjusted to cut off the d.c. valve (and any extra delay bias is also given). R1 then acts purely in its former capacity as a screen dropper. When the a.g.c. (positive) is applied, and the bias overcomes the valve conducts and draws current through R1, lowering the screen volts, and gain of the controlled stages.

Many variations can be arranged in conjunction with "normal" a.g.c. The d.c. valve need not be cut off but in this case the screen dropper must be varied for two reasons, i.e. added voltage drop and increased dissipation. To obtain "no delay" conditions, a very slight current was found necessary.

No calculations have been given as conditions vary too much as if theory fails, practice is almost as quick if you possess a simple multimeter.

—B. M. Oliver, VK3ZLM.

POLISHING "PERSPEX"

When wishing to polish "Perspex" or other clear plastic dials, etc., which have scratched surfaces or rough edges, use "Repco" car polish, or any other abrasive car polish.

Cut edges should be filed as smooth as possible and after polishing they will be as clear as glass.

—J. E. Barker, VK3ZCJ/T.

SOME IDEAS THAT WILL HELP

A few two-foot lengths of covered wire with alligator clips soldered to each end are invaluable about the shack, for extension leads.

An elastic band left twisted round the handles of your pliers turns them into a handy little vice to hold wires steady when soldering.

Don't melt the YL's transistor seven. A few inches of copper wire wound round the soldering tip will place a drop of solder where you want it.

Ice-cream sticks make lovely spacers for 600 ohm feeders, but stand them in a tin of hot candle grease before use, and they last longer and insulate better.

Have trouble removing push-on plastic knobs from tiny portables? If not, please write and tell us how to do it.

Solder is easily removed from hollow pins on plugs by melting with the iron, pulling out old wires, then blowing vigorously down the cool end of the pin; a little spray of solder will come out before it has time to set.

Change those old electrolytics before they blow up and wreck half the wiring.

Want to anchor a loose meter glass without pulling it apart? A strip of plastic tape will help you grip the glass, and any adhesive will flow out of a tube onto the edges. That should at least hold the glass clear of the needle.

—Rev. Bro. D. L. Kinseale, VK2AXK.

NON-DELIVERY OF "A.R."

If you are not receiving your copy of "A.R." please follow these steps which will ensure the correct procedure is followed; any attempt to short circuit the system will only further delay matters.

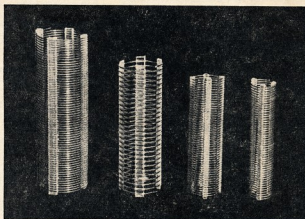
Write to your Divisional Secretary advising non receipt of "A.R."; do not write to "A.R." The Divisional Secretary should write to the Circulation Manager "A.R." P.O. Box 36, East Melbourne, C2, Vic., advising him of the problem. Unless this advice is received before the 8th of the month, a further month must elapse before the member can be re-instated upon the circulation list.

Please ensure that you always advise your Divisional Secretary in writing, verbal advice will not do.

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1-16	$\frac{1}{8}$ "	16	3"	No. 3003	5/3
2-08	$\frac{3}{16}$ "	8	3"	No. 3006	6/3
2-16	$\frac{3}{16}$ "	16	3"	No. 3007	6/3
3-08	$\frac{1}{4}$ "	8	3"	No. 3010	7/4
3-16	$\frac{1}{4}$ "	16	3"	No. 3011	7/4
4-08	1"	8	3"	No. 3014	8/5
4-16	1"	16	3"	No. 3015	8/5
5-08	$1\frac{1}{4}$ "	8	3"	No. 3018	10/6
5-16	$1\frac{1}{4}$ "	16	3"	No. 3019	10/6

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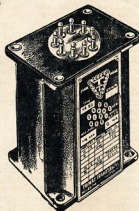
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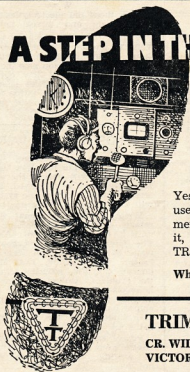
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BOOK REVIEWS

"HI-FI AMPLIFIER CIRCUITS"

By E. Rodenhuis

This 106 page book deals with the major elements of a Hi-Fi system in so far as the amplifier and pre-amplifiers are concerned. A well illustrated text gives detailed descriptions of 3, 10 and 20 watt amplifiers with particular reference to the output transformer design, which the author rightly points out is a major component which has a very great influence upon the final tone quality of the unit.

Examples of single ended and push pull output stages are given, together with pre-amplifiers with full recording compensation, filters with both high and low pass characteristics, and a four channel mixer.

It is a very good booklet for the builder of Hi-Fi equipment, and the section dealing with the output transformer design would be of interest to local manufacturers. A useful reference work for a well equipped library.

Our copy direct from Philips' Technical Library, Holland. Australian price 18/- each.

"THE RADIO AMATEUR OPERATOR'S HANDBOOK"

This forty-eight page booklet, produced in conjunction with the International Short Wave League, is a very comprehensive listing of data which has general application to the s.w.l. and DX enthusiast. It includes data which, whilst available in other publications, is not presented in such a form as to be specifically useful for ready reference. The eight page index provides a useful means of compiling your DXCC scores and includes provision indicating the use of the five main Amateur bands. Amateur prefixes, zones, distances and directional bearings all add to the usefulness of the booklet. It would be a very useful adjunct to the s.w.l. who requires to improve his knowledge. In addition, the chapter on DX operating technique is applicable to all Amateurs.

Our copy direct from Data Publications Ltd., London. Now available locally in book series No. 6.

"AN INTRODUCTION TO THE CATHODE RAY OSCILLOSCOPE"

By Harley Carter

This 132 page booklet deals in a brief manner with the main component parts of a c.r.o. Eight chapters cover this very wide and complex field. Twenty-one pages are devoted to the theory of sweep generators, yet the practical application chapter only has twenty-seven pages on this subject in a book which is designed for those using the equipment. The text, in the second edition suffers from various typographical errors, but these are minor.

It is felt that a bibliography at the end of each chapter could prove very valuable to students or others connected with using this gear in the field. Some very interesting practical applications are briefly mentioned, but an expert knowledge of electronics would be required to develop a circuit from the description given. Chapter eight deals with practical circuits and this gives a very good description of equip-

ment which would have application in the laboratory, school, or workshop.

It is a good book to serve as an introduction to this vast subject, and the absence of formulae tends to prevent the text from becoming theoretical. The subject is dealt with in a logical manner, but assumptions are made that the reader is well versed with this subject. In spite of these comments, this book would be a valuable addition to many libraries and schools. It would assist those who use a c.r.o. in industry to appreciate the versatility of this equipment, and does so in a manner which does not require preknowledge of the subject. The text is well illustrated with the standard Philips' clear drawings.

Our copy direct from Philips' Technical Library, Holland. Australian price 18/-.

"INDUSTRIAL ELECTRONIC APPARATUS"

By Van der Ploeg

This booklet sets out to show the attention to detail which is required to obtain reliable electronic equipment. It has obviously been written by a practical engineer judging by the remark, "Only then may h.t. be applied and, nine times out of ten, it will appear something is wrong. This is by no means unusual, for in electrical equipment there are many opportunities for slipping up . . ."

If the publication of this booklet in any way assists to overcome the current industrial ignorance regarding electronic equipment it will serve a useful purpose. It gives a very comprehensive review of the steps required to establish, produce, maintain and install equipment which will do the required job. In addition it points out that mechanical, electrical and electronic equipment each have their own purpose and it is incorrect to interchange these functions.

Simplicity is the desired requirement and the author sets out in broad lines how this may be achieved. A typical item is covered from design to installation and suggestions upon servicing are outlined.

An excellent book which could profitably be read by everyone concerned with electronic gear. It will not state how to design equipment, but the philosophy throughout could well be adopted by all designers. Various tube data is given and this logically applies to gas filled rectifiers and thyristors which are types most encountered in industrial equipment.

Our copy direct from Philips' Technical Library, Holland. Local price 13/-.

"THYRATRONS"

By C. M. Swenne

This 82 page booklet deals with a family of tubes which daily are becoming of increasing importance. A brief outline of the tube functions are given then the author deals with the practical application to various circuits, highlighting the fact that these tubes are particularly suited for high speed switching type circuits in which heavy currents are required to be handled. Various circuits are given which provide useful data upon using these tubes, but the text does not advise how to design a circuit.

A non-mathematical treatment has been adopted which does not detract from the usefulness of the booklet. Each circuit given is a typical example of how thyristors may be used and is a time proven design. One interesting example is a d.c. to a.c. converter using thyristors and is an application which is not so widely known. Another example is a dimming circuit for use with fluorescent tubes.

This booklet will be of use to those who require a guide as to the means whereby various industrial processes must be controlled, e.g. spot welding, and who are concerned with servicing equipment using thyristors. No mention is made of possibly the best known electronic application of thyristors, namely as saw tooth sweep generators. Well worth reading by those who use these tubes, or by those who require a broad outline upon this subject. The text contains a few typographical errors, but these do not detract from a well prepared booklet.

Our copy direct from Philips' Technical Library, Holland. Local price 17/6.

"MOBILE MANUAL," 1960 Edition

By A.R.R.L.

This two hundred and seventy-nine page book is produced in the typical A.R.R.L. style on good quality paper, well illustrated with clear drawings. It contains much to interest every Amateur, particularly those concerned with mobile operating, but the circuits, etc., have application in any Amateur shack. The transmitters cover from 160 to 2 m.x., and associated converters are shown. Transmitter hunting, battery gear, aerials and power supplies receive adequate attention. The article on "Short Antenna for Mobile Operation" will provide much data and ideas which will tend to dispel certain erroneous thoughts normally held by many Amateurs.

An excellent book to have on your library shelf if you have not the past issues of "QST" but even then it is a collection of like articles which will save you having to search through your copies.

Our copy direct from A.R.R.L., U.S.A. Now available from local booksellers.

★

COLLINS RADIO CREATE A RESEARCH DIVISION

Collins Radio Company announce the creation of a corporate research division to advance basic research in electronics. The new division will be located in close proximity to a university in Southern California. Such an arrangement offers advantages to both the research division and the university staff.

Location sites under consideration include La Jolla and Newport Beach. The University of California is developing facilities at both cities.

Formation of the new division was the result of a study conducted over the past several months to determine long range research objectives of the Company and the means of attaining them.

Among the fields the division will work in will include solid state physics, electrostatic wave propagation, thermoelectric phenomena, information theory, network synthesis, radio astronomy, digital processing and it will not be restricted to the special interests of any one of the Company's operating divisions.

The research division will be directed by Dr. R. L. McCreary, who is presently director of the Central Research Laboratories (CRL) Division. Members of his staff will form the nucleus of the division and they are scheduled to move during 1962. Additional scientists and engineers will be recruited for the new organization.

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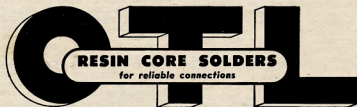
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Rules of Australian DX Century Club Award

1. The Australian DX Century Club Award is open to any Australian Amateur who has established two-way contact with one hundred or more countries in the world and complies with the following Rules.

2. All contacts must have been made since the return of licenses after the 1939-45 War.

3. The official Countries List, as published annually and amended from time to time in the Federal Notes of "Amateur Radio" shall be used for the purpose of determining "countries".

4. All contacts shall be made with other Amateur stations operating in the authorised Amateur bands, or with stations licensed to contact Amateur stations.

5. Contacts made with ship or aircraft stations will not be allowed, but land mobile stations may be claimed provided the location at the time of contact is clearly shown on the confirmation.

6. Credit may only be claimed for stations using regular government assigned calls for the country concerned.

7. Stations of a portable nature which are using their own call sign followed by the prefix of the country in which they are operating may be credited under Rule 6 above, provided

that the confirmation submitted indicates the particulars of such operation and the other requirements are in accordance with these Rules.

8. Each confirmation submitted must show the date of contact, type of emission, the report, the band, and the location of the station.

9. Confirmations must be submitted exactly as received from the station contacted and altered or forged confirmations will be grounds for disqualification.

10. Out-of-band operation used to contact a station will result in disqualification and be retrospective in the case of members.

11. All stations must be contacted from the same Australian call area and by the same licensee, although if the call sign is subsequently changed, contacts will be allowed if still within original call area and by the original licensee.

12. Confirmations submitted which show both phone and c.w. reports may be accepted for both sections if the date of each contact is shown and emission is indicated.

13. Should a country be deleted from the official countries list at any time, members and intending applicants will be credited with such country if

the date of contact is before the date of such deletion.

14. Certificates will be issued for "All Phone", "All C.w." and "Open" contacts with a hundred countries and stickers will be subsequently issued for each additional twenty countries confirmed over the one hundred.

15. Successful applicants will be listed monthly in "Amateur Radio". Subsequent to the first application, members must submit additional confirmations of not less than five at any one time, for additional credit.

16. Applications for membership shall be addressed to the Awards Manager, G.P.O. Box 2611W, Melbourne, and accompanied by sufficient postage for return of confirmations to the applicant, registration being included if desired. Confirmations must also be accompanied by a list of claimed countries and stations, showing relevant details or explanations where necessary.

17. The decision of the Awards Manager in the interpretation and application of these Rules shall be final and binding.

18. Notwithstanding anything to the contrary in these Rules, Federal Council of the Wireless Institute of Australia reserves the right to vary or alter them when necessary.

WORKED ALL VK CALL AREAS (W.A.V.K.C.A.) AWARD

Object

1. This Award, to be known as the W.A.V.K.C.A. Award, is offered by the Wireless Institute of Australia as tangible evidence of the proficiency of overseas Amateurs in making contacts with the various call areas of the Commonwealth of Australia.

2. The Award may be claimed by any Amateur in the world who is a member of an affiliated Society of the I.A.R.U., but no Australian Amateur will be eligible.

Operation

3. Contacts between overseas stations and Australian stations must have been made on or after the 1st January, 1946.

4. Contacts may be made using any authorised frequency band or type of emission permitted to Australian Amateurs, but cross band contacts will not be allowed.

5. No contacts made with ship or aircraft stations in Australian territories will be eligible, but land-mobile or portable stations may be contacted provided the location at the time of contact is shown on the confirmation.

Requirements

6. A handsome Certificate will be awarded to any applicant who makes twenty-one (21) contacts with Australian Amateur Stations in the areas shown in the attached Appendix. The number of contacts required in each area is also shown.

7. Reserved.

Verifications

8. The applicant must submit documentary proof, in the form of QSL cards or other written evidence, confirming that two-way contacts have taken place. Such verifications must show the date and time of contact, type of emission and frequency used, signal reports and location (in the case of portable or land-mobile operation) of the stations contacted.

9. Verifications must be submitted exactly as received, and forged or altered evidence may result in the disqualification of the station concerned.

10. A list, in accordance with the details required in Rule 8, must be submitted with the application for the Award.

Application for Award

11. All claims for the W.A.V.K.C.A. Award must be made by the submission of the confirmations (Rule 6 or 7), together with the list (Rule 10), direct to "Awards Manager," Box 2611W, G.P.O., Melbourne, Australia. Sufficient International Reply Coupons must be enclosed to cover return postage of the confirmations to the applicant.

12. Where a reciprocal agreement exists between the W.I.A. and the applicant's Society, the appointed officer of that Society will carry out the check, and if correct, will forward a written application for the Award on behalf of the applicant, together with the list (Rule 10).

13. Applications will be examined by the Awards Manager, who will arrange for the Award to be forwarded either direct or through the applicant's Society. The Awards Manager's decision on the application and interpretation of these Rules will be final and binding.

14. Notwithstanding anything in the Rules to the contrary, the Federal Council of the W.I.A. reserves the right to amend these Rules as necessary.

APPENDIX

Territory	Call Area	QSLs Required
(1) Australian Antarctica	VK0	1
(2) Heard Island		
(3) Macquarie Island		
(4) Australian Capital Terr.	VK1-2	3
(5) Lord Howe Island		
(6) State of New South Wales	VK3	3
(7) State of Victoria		
(8) State of Queensland	VK4	3
(9) Thursday Island		
(10) Willis Island	VK5	3
(11) State of South Australia		
(12) State of West. Australia	VK6	3
(13) Flinders Island		
(14) King Island	VK7	3
(15) State of Tasmania		
(16) Northern Territory	VK8	1
(17) Admiralty Islands		
(18) Bougainville Island	VK9	1
(19) Coos Islands		
(20) New Britain	VK9	1
(21) New Guinea		
(22) New Ireland	VK9	1
(23) Norfolk Island		
(24) Papua Territory	VK9	1
(25) Christmas Island		

Note.—In Areas above, where more than one confirmation is required, contacts may be made with any or all of the Territories listed in brackets.

AUSTRALIAN D.X.C.C. COUNTRIES LIST

	Phone	C.W.		Phone	C.W.
AC3	Sikkim	*FF8	.....	French West Africa
AC4	Tibet	FF (from 20/6/60)	.....	Mauritania
AC5	Bhutan	FF (from 1/8/60)	.....	Dahomey Rep.
AP2	Pakistan	FF (from 7/8/60)	.....	Ivory Coast Rp.
BV (C3)	Formosa	FF (from 3/8/60)	.....	Niger Rep.
BY (C)	China	FF (from 20/6/60)	.....	Senegal and
C9	Manchuria		.....	Sudan-Mali Federation
CE	Chile	FF (from 5/8/60)	.....	Voltaic Rep.
CE9, KC4, LU-Z, VK0, VP8, ZL5	etc., Antarctica	FG7	.....	Guadeloupe
CE0A	Easter I.	FI8 (prior 20/7/55)	.....	Fr. Indo China
CE0Z	J. Fernandez Arch.	FK8	.....	New Caledonia
CM, CO	Cuba	FL8	.....	Fr. Somaliland
CN2 (prior 1/7/60)	Tangier	FM7	.....	Martinique
CN2, 8, 9	Morocco	FN (prior 1/11/54)	.....	French India
CP	Bolivia	FO8	.....	Clipperton I.
CR4	Cape Verde Is.	FO8	.....	Fr. Oceania
CR5	Portuguese Guinea	FP8	.....	St. Pierre & Miq. Is.
CR5	Principe, Sao Thome	*FQ8	.....	Fr. Equatorial Africa
CR6	Angola	FQ (from 13/8/60)	.....	Cen. Afric. Rp.
CR7	Mozambique	FQ (from 11/8/60)	.....	Chad Rep.
CR8	Goa (Port. India)	FQ (from 15/8/60)	.....	Congo Rep.
CR9	Macao	FQ (from 17/8/60)	.....	Gabon Rep.
CR10	Port. Timor	FR7	.....	Reunion I.
CT1	Portugal	FS7	.....	Saint Martin
CT2	Azores	FU8, YJ1	.....	New Hebrides
CT3	Madeira Is.	FW8	.....	Wallis & Futuna Is.
CX	Uruguay	FY7	.....	Fr. Guiana & Inini
DJ, DL, DM	Germany	G	.....	England
DU	Philippine Is.	GC	.....	Channel Is.
EA	Spain	GD	.....	Isle of Man
EA6	Balearic Is.	GI	.....	Northern Ireland
EA8	Canary Is.	GM	.....	Scotland
EA9	Ifni	GW	.....	Wales
EA9	Rio de Oro	HA	.....	Hungary
EA9	Spanish Morocco	HB	.....	Switzerland
EA0	Spanish Guinea	HC	.....	Ecuador
EI	Rep. of Ireland	HC8	.....	Galapagos Is.
EL	Liberia	HE	.....	Liechtenstein
EP, EQ	Iran	HH	.....	Haiti
ET2	Eritrea	HI	.....	Dominican Rep.
ET3	Ethiopia	HK	.....	Colombia
F	France	HK0	.....	Arch. of San Andres and Providencia
FA	Algeria	HL	.....	Korea
FB8	A'dam & St. Paul Is.	HP	.....	Panama
FB8	Comoro Is.	HS	.....	Thailand
FB8	Kerguelen Is.	HV	.....	Vatican
FB8	(Madagascar) Malagasy	HZ	.....	Saudi Arabia
FB8	Tromelin I.	I1, I71	.....	Italy
FC	Corsica	I1 (prior 1/4/57)	.....	Trieste
FD	Togo	I5 (prior 1/7/60)	.....	It. Somaliland
FE8	French Cameroons	IS1	.....	Sardinia

* Fr. West Africa and Fr. Equatorial Africa: Only contacts dated prior to when the particular area obtained separate listing (as shown) will count.

	Phone	C.W.		Phone	C.W.
JA, KA	Japan		PX	Andorra	
JT1	Mongolia		PY	Brazil	
JY	Jordan		PY0	Fernando de Noronha	
JZ0	Neth. New Guinea		PY0	Trindade & Martin Vaz Is.	
K, W	U.S.A.		PZ1	Netherlands Guiana	
KA0, KG61	Bonin & Volcano Is.		SL, SM	Sweden	
KB6	Baker, Howland and American Phoenix Is.		SP	Poland	
KC4	Navassa I.		ST2	Sudan	
KC6	Eastern Caroline Is.		SU	Egypt	
KC6	Western Caroline Is.		SV	Crete	
KG4	Guantanamo Bay		SV	Dodecanese	
KG6	Marcus I.		SV	Greece	
KG6	Mariana Is.		TA	Turkey	
KH6	Hawaiian Is.		TF	Iceland	
KJ6	Johnston I.		TG	Guatemala	
KL7	Alaska		TI	Costa Rica	
KM6	Midway Is.		TI9	Cocos I.	
KP4	Puerto Rico		UA1, 2, 3, 4, 6	Eur. R.S.F.S.R.	
KP6	Palmyra Group, Jarvis I.		UA1	Franz Josef Land	
KR6	Ryukyu Is.		UA9, 0	Asiatic R.S.F.S.R.	
KS4B	Serrana Bank and Roncadore Cay		UA0 (prior 1/9/60)	Wrangel I.	
KS4	Swan Is.		UB5	Ukraine	
KS6	American Samoa		UC2	White Russian S.S.R.	
KV4	Virgin Is.		UD6	Azerbaijan	
KW6	Wake I.		UF6	Georgia	
KX6	Marshall Is.		UG6	Armenia	
KZ5	Canal Zone		UH8	Turkoman	
LA	Jan Mayen		UI8	Uzbek	
LA	Norway		UJ8	Tadzhik	
LU	Svalbard		UL7	Kazakh	
LU	Argentina		UM8	Kirghiz	
LX	Luxembourg		UN1 (prior 1/7/60)	Kar-Fin Rep.	
LZ	Bulgaria		UO5	Moldavia	
M1	San Marino		UP2	Lithuania	
MP4	Bahrein		UQ2	Latvia	
MP4	Qatar		UR2	Estonia	
MP4	Trucial Oman		VE, VO	Canada	
OA	Peru		VK	Australia	
OD5	Lebanon		VK	Lord Howe I.	
OE	Austria		VK4	Willis Is.	
OH	Finland		VK9	Christmas I.	
OH0	Aland Is.		VK9	Cocos Is.	
OK	Czechoslovakia		VK9	Nauru I.	
ON4	Belgium		VK9	Norfolk I.	
OX, KG1	Greenland		VK9	Papua Terr.	
OY	Faeroes		VK9	Terr. of New Guinea	
OZ	Denmark		VK0	Heard I.	
PA0, PI1	Netherlands		VK0	Macquarie I.	
PJ	Neth. West Indies		VO (prior 1/4/49)	Newf./Lab.	
PJ2M	Sint Maarten		VP1	British Honduras	
PK1, 2, 3	Java		†VP2 (prior 1/6/58)	Leeward Is.	
PK4	Sumatra		VP2	Anguilla	
PK5	Neth. Borneo		VP2	Antigua, Barbuda	
PK6	Celebes & Molucca Is.		VP2	Br. Virgin Is.	
			VP2	Montserrat	
			VP2	St. Kitts, Nevis	
			†VP2 (prior 1/6/58)	Windw'd Is.	

†One contact with each group formerly known as "Leeward Is." and "Windward Is." dated prior to 1/6/58 may be credited, in which case no further credit as a separate listing, as from 1/6/58, will be given those particular islands.

	Phone	C.W.		Phone	C.W.
VP2	Dominica		YS	Salvador	
VP2	Grenada & Deps.		YU	Yugoslavia	
VP2	St. Lucia		YV	Venezuela	
VP2	St. Vincent & Deps.		YV0	Aves I.	
VP3	British Guiana		ZA	Albania	
VP4	Trinidad & Tobago		ZB1	Malta	
VP5	Cayman Is.		ZB2	Gibraltar	
VP5	Jamaica		ZC4	Cyprus	
VP5	Turks & Caicos Is.		ZC5	Br. North Borneo	
VP6	Barbados		ZC6	Palestine	
VP7	Bahama Is.		ZD1	Sierra Leone	
VP8	Falkland Is.		ZD2	Nigeria	
VP8, LU-Z	South Georgia		ZD3	Gambia	
VP8, LU-Z	South Orkney Is.		ZD6	Nyasaland	
VP8, LU-Z	South Sandwich Is.		ZD7	St. Helena	
VP8, LU-Z, CE9	Sth. Shet. Is.		ZD8	Ascension Is.	
VP9	Bermuda Is.		ZD9	Tristan da Cunha and	
VQ1	Zanzibar			Gough I.	
VQ2	Northern Rhodesia		ZE	Southern Rhodesia	
VQ3	Tanganyika Terr.		ZK1	Cook Is.	
VQ4	Kenya		ZK1	Manihiki Is.	
VQ5	Uganda		ZK2	Niue	
VQ6 (prior 1/7/60)	Br. Somalil'd		ZL	Chatham Is.	
VQ8	Cargados Carajos Shs.		ZL	New Zealand	
VQ8	Chagos Is.		ZL1	Kermadec Is.	
VQ8	Mauritius		ZL4	Auckland and Campbell Is.	
VQ8	Rodriguez I.		ZM6	British Samoa	
VQ9	Seychelles		ZM7	Tokelau	
VR1	British Phoenix Is.		ZP	Paraguay	
VR1	Gilbert & Ellice Is.		ZS1, 2, 4, 5, 6	Union of S. Africa	
	and Ocean I.		ZS2	Prince Ed. and Marion I.	
VR2	Fiji Is.		ZS3	South-West Africa	
VR3	Fanning & Christmas Is.		ZS7	Swaziland	
VR4	Solomon Is.		ZS8	Basutoland	
VR5	Tonga Is.		ZS9	Bechuanaland	
VR6	Pitcairn I.		3A	Monaco	
VS1 (from 1/4/46)	Singapore		3V8	Tunisia	
VS4	Sarawak		3W8, XV5	Vietnam	
VS5	Brunei		4S7	Ceylon	
VS6	Hong Kong		4W1	Yemen	
VS9	Aden & Socotra		4X4 (from 14/5/48)	Israel	
VS9	Maldiva Is.		5A	Libya	
VS9	Sultanate of Oman		6O1, 6O2 (from 1/7/60)		
VU2	India			Somalia Rep.	
VU4	Laccadive Is.		7G1 (from 1/10/58)	Rp. of Guinea	
VU5	Andaman & Nicobar Is.		9G1, ZD4	Ghana	
XE, XF	Mexico		9K2	Kuwait	
XE4	Revilla Gigedo		9M2	Malaya	
XW8	Laos		9N1	Nepal	
XZ2	Burma		9Q5 (previously OQ5-0)	Rep. of	
YA	Afghanistan			The Congo	
YI	Irak		9S4 (prior 1/4/57)	Saar	
YK	Syria		9U5 (from 1/7/60)	Ruanda-Urundi	
YN, YN0	Nicaragua		—	Aldabra Is.	
YO	Roumania		—	Cambodia	

VHF

David Tanner, VK3ZAT
C/o. British Nylon Spinners,
Bayswater, Victoria.

After these notes appear, I shall probably be abused by all and sundry for the rather limited amount of material which is in this issue. The reason, however, is simply this, I have only received a few notes from a few scribbles. I have the finger at your own particular scribe either, as each one of you is also capable of putting pen to paper and letting me have your version of the activity on the bands you use.

Now to give you some news. Up to date, the sporadic E season appears to be off to rather a slow start, but it should be on an earnest very shortly. I have noticed a few very short openings during the last couple of weeks, at times when activity was very low. Of interest all those chasing that elusive VK8, is the news that Kel VK3ZFPQ is well under way in his preparation for the trip to Alice Springs. Kel should be audible quite often, as the skip distance to Alice is close to optimum for most of the capital cities.

From VK0PMF and VK3AKN comes the news that Keith VK0ED (ex-VK3ZED) at Davis has heard signals from VK on 50 Mc. Keith is on 50.4 Mc. at 1500 E.A.S.T., especially Sunday and given half a chance should be workable at night. I have been heard from down that way in previous years.

A word of advice to some of the newer operators, and may also be helpful to those interested in looking around for the point ones. It is very helpful if you give your own call sign last when signing over as it avoids a great deal of uncertainty as to who you actually are.

Finally let me make a plea on behalf of the sidebar operators. Please try and do your best with the best you have to hand. Fancy product detectors but a stable rx and b.f.o. are a must. As a guide to those who have not yet heard how the best way to have a steady gain control adjustments should preferably be made with the r.f. gain control. Next, turn on the r.f. gain, edit the r.f. frequency until it sounds intelligible. It may sound natural, but then neither are a lot of phone signals. Once you have a signal tuned in correctly, add a little bit of thunder. Fiddle with the tuning because it will only get you into trouble again. I hope 2AQJ will forgive me for stealing a little bit of thunder. Please send all correspondence to D. Tanner, C/o. British Nylon Spinners, Bayswater, Victoria.—3ZAT.

VICTORIA

The following are the official VK3 v.h.f./u.h.f. records as at the beginning of 1961. The v.h.f. records in particular have stood for a long time and are better to have than not. Don't be backward in coming forward! Let the V.h.f. Group know.

80 Mc.
VK3ALZ-XEIPU, 1st May, '59, 8419 miles.
VK3ZCW-VK7LZ, 512 miles.

288 Mc.
VK3ALZ-VK7LZ, 10th Jan., '60, 284 miles.
578 Mc.
VK3ANW-VK3AKE, 11th Dec., '49, 82 miles.

2280 Mc.
VK3ANW-VK3XA, 18th Feb., '50, 91 miles.

50 Mc.—Over the past month, this band has provided plenty of interest. The second ionospheric layer propagation occurred on Sun, 13th Nov. (the first case was in Feb. '58) when a number of Victorian country stations were worked by the Melbourne group. The SWR was listened to from Melbourne from 1800-2000 hrs., but was not able to work John until 2000 hrs. at which time signals rose to 59 then 60 and became visible at Forbes. In all cases of auroral QSOs, beams were south and signals very garbled. Apparently this aurora affected 28 Mc. (VK3L) and the 28 Mc. band. The report was that W to W QSO via aurora made on 14 Mc.

After the aurora faded, nothing much in Melbourne, but Hugo 3WH had some JAS. activity on the midday band. The first VK4 JAS did come through on the 18th Nov.

a Friday, after midday but there was not many on to work the very strong JA signals.

The evening of the 14th Nov. proved interesting, with VK7 and short skip to VK2 (Sydney) whilst later VK4 came through. VK5 were being called by some but heard no contacts being made. I did log 3ALU and the Cull Book gives his QTH as Nyah West (near Swan Hill). Back scatter as well? My beam was a short west of north at the time. Anyone else hear him?

29 stations including 4ZBL (mobile Melbourne) and 3ZBL (station) were on 2700 Mc. Nov. when 3ZEO acted as control. Michael 3ZCZ and Neil 3ZJN tied for first place and Neil was elected to act as control next time. Remember 30 Mc. scramble are the fourth Sunday of the month, 1945-2015 hrs. E.A.S.T.

144 Mc.—Noel 3OU is on 144.6 Mc. from 1900-1965 hrs. E.A.S.T., every evening with the beam on Melbourne. The 3ZBL and 3ZBL with Bob 3UW at Wodonga were a failure, however they are continuing. Are the Melbourne group prepared to encourage these fellows by keeping skeds? They could be arranged by post you know!

Col 3FO at Maldon, 75 miles N.W. of Melbourne, has back scatter on 144.6 Mc. He has reported hearing Col. at good strength. Al 5ZCR is stoking up from Mt. Gambier on 144.06 Mc., whilst David 5AW at Penola has shifted to 144.4 Mc.

Conditions were good on the evening of 26th Nov. when 3AGV Col. 3ZBL Ballarat, 3ZEA Mainland 3NN and 3ZFX (230 miles) were on round table with good signals all round. Longest path involved was 3AGV to 3ZEA—185 miles. Signals were still good on Sunday morning 27th, when 3AGV worked 5AW and 3ANQ as well. Gordon had a 5 x 9 signal into Melbourne at 1145 hrs. The evening saw 3ZEO and 3ZBL and 3ZFX (230 miles) were before David closed with converter trouble. Herb 3NN was also worked by Melbourne stations.

The 144 Mc. scramble on 13th Nov. had 23 starters and Bill 3ANZ won with 18 contacts, while Neil 3ZJN was runner up with 15.

Field Days.—Field days to come are as follows: Jan. 29, Mar. 12, and Apr. 23.

V.h.f. Group activities. The following notes are by courtesy of Bob 3ZAN. The Nov. group meeting on 10th Nov. was held at a visit to the State Electricity Commission's communications centre at Flinders Street and Richmond. The Flinders centre is situated on a 70 Mc. base station for metropolitan coverage with additional remote receivers at Deer Park and Mt. Waverley connected via a link on the 160 Mc. line. The centre also has a number of links in the 100 Mc. and 400 Mc. bands for multi-channel telephone services to six major country centres.

The Richmond centre is the Commission's maintenance and manufacturing point. Here, a large array of equipment was on display, including Yagi's, 160 and 400 Mc. complete with polar diagrams plotted during field trials. A very fine collection of high quality v.h.f. equipment indeed.

Thanks are due to the officers of the S.E.C. who conducted members around. However it was most disappointing to the organisers that only five turned up to take advantage of such an interesting display.

Thanks Bob, and indeed it must have been disappointing to you with that turn up. What is the matter with members? They complain about the Melbourne group but when the visit is arranged for them they won't participate. I give up.—3QV.

SOUTH AUSTRALIA

50 Mc.—Interstate openings on 6 mhz were quite frequent last month with VK4s and VK2s being worked at very good strength. The first opening occurred on 6th Nov. at approx. 1000 hours S.A.T. when VK4s and VK2s were worked in fine style. Signal strengths were very good, 4ZLP and 4ZBZ being received at 59 Mc. and 60 Mc. respectively.

In the afternoon many VK3s were audible on back-scatter, with antennae beaming north. Gary 3ZFM was working with VK4s and signals were down in strength. On 14th Nov. at approx. 2100 hours the band again opened up—this time in addition to VK4s and VK2s we had some work with VK3s. During this break-through Graham 5ZAP/2 was worked mobile whilst motoring through the Blue Mountains in New South Wales.

In several other break-throughs also occurred, some of these being in the day time. Dean 5ZDS successfully worked into VK2 during his lunch hour from Minkston, S.A.

At 144 Mc. V.h.f. 3ZBL and 3ZBL on Saturday night, 12th Nov. Ron 5MK led the field in both events with Neil 5ZAW second in the first event and Neil 5ZAW first in the second, and his hiding places were cunningly chosen.

The VK5 V.h.f. Group conducted another scramble evening on 6 mhz at 2900 hours S.A.T. on 13th Nov. and the winning station was your scribe being the M.C. Three scrambles were held in all—Brian 5TN winning the first two, and Gary 5ZM winning the last one.

Last month the V.h.f. Group held its Annual General Meeting for the re-election of officers who will be as follows for 1961: Chairman, Neil 5ZBL; Secretary, Neil 5ZBL; Treasurer, Barry 5BQ; and Councillors George 5GG and Barry 5ZFM. Mick 5ZDR will be the M.C. for the evening. The group will be on 6 mhz to be relayed by 5WV. All scrambles fox hunts, etc., will be advertised at least one week prior to their commencement, so the group is reminded to listen at the same time early hour of 0900 hours S.A.T. for details.

The 6 mhz mobiles are still very active and John 5ZDL is in Adelaide on leave from Darwin. He runs quite a lot of power to his mobile rig and has recently been heard on the band in VK3. Mick 5ZDR is contemplating higher power for his mobile rig and Brian 5TN is now equipped with 6 mhz mobile gear. Graham 5ZAP has been touring VK2 and reported having many mobile contacts including VK3 and 5ZBL.

By the time these notes are read, Eugene 5AV will be in Daly Waters and, we hope, "crouched over his 6 mhz rig" with the beam in the direction of the M.C. and 5ZBL and will be there for at least 12 months. It is on record that Ron 5MK has offered practical assistance to Eugene 5AV. Eugene 5AV him calling "CQ 6" from N.T. Dean 4ZAN/3 is expecting a visit from Laurie 5ZBL who is also equipped with 6 mhz mobile, and should provide interesting information for the VK5s. The only newcomer on 6 mhz this month is Graham 5ZAP and he is welcomed to the band.

144 Mc.—On Nov. 25 your scribe made a visit to the 144 Mc. S.E.C. including M.C. 5ZBL and Penola, and the v.h.f. scene, as viewed from Al 5ZCR's QTH at the Mount was quite interesting. Al's contact 2 mhz contact is David 5AW at Penola, 144 miles. The contact was on 5 x 9 nearly every night and also other stations just across the border into VK3, including up to 100 miles. Several other conditions permit, Al hopes to work into Ballarat and possibly Melbourne on 2 mhz. Al has a converter featuring a 41A in the r.f. stage and is applying for a licence for 6.450 Mc. the antenna is a 10 element Yagi.

David 5AW at Penola also has a very good 2 mhz installation and is extremely keen. There is a very active v.h.f. scene in the West and the majority of contacts are over distances of 100 miles and over. Col 5CJ at Mt. Gambier is standing up on 2 mhz also, and will increase his a.t.v. activity. However, the v.h.f. scene in Adelaide has not altered much since last month, Mick 5ZDR being the most active.—5BQ.

WESTERN AUSTRALIA

The last meeting of the W.A. V.h.f. Group (Inc.) was attended by Cole 6CS and Jim 6RU who put the case of the W.A. in VK3 for the amalgamation of the V.h.f. Group and the VK6 Division of the W.I.A. There was some lengthy discussion before the matter was held over for motion to be taken at the next group meeting. It is expected that the future of the Group will be decided at the next meeting.

The last 145 Mc. fox hunt was run by Cedric 6ZBC. Unfortunately the fox suffered from a flat battery and most of the pursuers gave it away under the impression that their listening post was the fox. The fox was not 6ZBC. It was stuck tenaciously to the job and loped home an easy winner, not before he churned up some of the sand on the median strip on the Freeway.

50 Mc.—Some DX has appeared on 6 over the last few weeks, chiefly in the form of JA and HK. The latter station and the JA appears frequently, but openings are well down on last year. There was one good JA opening on 6 over the last week, but not following the big sunspot burst on the previous week-end. There has been no E's activity. Incidentally, the 50 Mc. beacon VK6VF still runs auto m.c.w. and the 50 Mc. will be turned east over the contest period.

288 Mc.—Five or six stations are now producing some activity on this band, 6WJ, 6ZAA, 6ZBL and 6ZBL. The 288 Mc. band is still a bit of a mystery, but some a.t.v. will be forthcoming in the future.

General.—Was surprised to receive a visit from Gordon MacDonald, VK3ZEE, recently. Gordon is in VK3 for the next two or three months. He is a very keen operator and, as a result, Gordon ran regular skeds on 2 mhz with VK6 last year. His main mode of operation is 144 Mc. s.s.b. He is at present house-hunting.

(Continued on Page 21)

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

ROYAL NAVAL AMATEUR RADIO SOCIETY

Editor "A.R.," Dear Sir,

After just passing three months since the inaugural meeting of the Society, it now boasts a modest membership of 13 Corporate members, 7 Associate members, and 3 Junior members.

Membership of the Society is open to all serving, or past, members of the Royal Navy, Royal Marines, Women's Royal Naval Service, Reserves or Commonwealth Navies. Associate membership is open to civilians who are, or have been, connected with the above services in any way. Further information can be obtained by writing to the following address: Hon. Secretary, Royal Naval Amateur Radio Society, H.M.S. Mercury, Leyland, Petersfield, Hants, U.K.

The Headquarters Amateur Radio Station (GB2U) is regularly on the air on 40 metres, and the DX bands, and will welcome calls from "Naval" operators.

Amongst the membership at present are five overseas members: VK3AST, VQ4HE, ZLAOP, SAFTQ and VOINA. Other overseas Hams have written to the Society's Headquarters asking for further details. The Society has applied for affiliation to the Radio Society of Great Britain.

Proposed projects include special members QSL cards and a Morse Code proficiency transmission run at regular intervals.

—M. J. Mathews, G3JFF/VSHU.

MORSE CODE

Editor "A.R.," Dear Sir,

Roth Jones, VK3BG, states that he is convinced about sideband transmission and after reading his letter I am convinced also that he is slipping badly and how! For me of 20 years and experience to advocate the abolition of c.w. in favor of the garbled blige and balderdash that masquerades as phone on our bands is incredible.

I realise that telephony as such is a reasonable means of communication for speed of contact over short distances such as aircraft radio, etc., but to suggest that c.w. is outmoded and useless is pure tripe. Perhaps the a.m. and s.s.b. and d.s.b. exponents fail to realise that Ham are not the only ones who listen in on our frequencies and we are judged in the ears of the listening public by what the public hear and not by what we say of the blige that emits from these tonal twisters stations must convince John Public that all Hams are raving rascals and by this I'm slandering those fellows who persist in using c.w. abbreviations in their speech. For example a Ham goes after a job and when the boss says, "Where do you live?" he says "My Kew the Haich" and the boss would be walking up to his best girl and say "Best 73s dear". To the c.w. man that's "Best Best Wishes".

I could go on for hours about that drive, but to do so is just as the reason of this note. Why do all the major communication companies use c.w.? be it teletype, f.s.k., m.c.w., but not Morse. Because, Roth Jones, they must get their information through and it has been proven from our earliest days of radio communication that c.w. will get through when phone is not. I can remember a day I run weekly sked with KXKX on c.w. and to date 90 per cent. of contacts are successful; would that be good. On only "c.w." can I hear the frantic struggles of almost any phone Ham to get more than a signal report across to answer that one!

Will grant you that there are lads on key-pounding, clack thumps, beat fists, etc., but at least they are using a means of communication that does not hog the limited space allotted to it. It is well known fact that on every phone station, 10 c.w. stations could operate in the same space.

"We can't afford to abolish c.w. Good Code operating gives prestige to the hobby; it is the mark of a good radio operator. I am a skill which cannot be picked up from a book and which sets the Amateur apart from the tinkerers." I can quote this from "CET".

Roth calls the key-pounders strange chaps! Well to name three, only the late Doug Whitburn (VK4BY), VK8RX and VK3JT, according to me, are strange—cause they were and are c.w. ops. and good ones. All were so strange that they amassed DX lists. Yet I hear, say time, brother, name three better W.I.A. workers!!!

And talking of chasing countries, OM, I notice in the VK DX Club that phone elements are not behind the door when it comes to chasing that "one country, the majority of which are uninhabited"—your own words OM.

I'll suggest that if the bands be reallocated that we put a.m., s.s.b. and d.s.b. in the h.f. top 40 Kc. give the rest to the c.w. operators. Let the boys who speak to the "Great Australian Public" try this for six months and I'll bet that after they have seen the error of their ways they will see the light and change over to the method which allows hundreds of Hams the world over to enjoy their hobby.

I have been a member of W.I.A. since 1928. I state the key and use the c.w. operators when I join my ancestors above or below, there will always be a vibroplex and a straight key locked to my transmitter.

Can't waste any more time, I'm tied up in 10 minutes, it's on 14589 c.w. alone.

—Leth Cotton, VK5LG.

Editor "A.R.," Dear Sir,

I read with amazement the letter from VK3BG in October "A.R." and would like to believe that coming from such a well known Ham it was written purely to "start something" and does not express his real sentiments.

We are continually hearing the same old cry, "C.w. is outmoded," whereas it is an undeniable fact that it is still the most efficient method of communication and will remain so until someone comes up with something new, which will have to be better than s.s.b. C.w. can be used under conditions impossible for phone, can be copied through QRM the phone man could not cope with, is more accurate and faster for traffic handling, and more stations can operate in a given frequency band—surely a big point these days. These facts are, of course, well known to c.w. operators, but apparently not to some others, and although I admit that more ability is required to use a key than to speak into a microphone, that ability can be attained by anyone with a little bit of go in him.

Morse code in one way or another over the years has been the means of saving many lives and should be learnt by everyone. To cut out the Morse in the A.O.C.P. would only be a retrograde step, as was the unfortunate decision some years ago to eliminate the probationary period on c.w. for new licensees. Had that remained I feel sure many newcomers to the Amateur ranks would now be enjoying the great satisfaction that comes from a good c.w. QSO.

The suggestion to hand over to a.m. the 40 Kc. that Roth would so magnanimously give us for six months is surely the most selfish suggestion ever put forward for band allocation, and cannot be taken seriously. Maybe my ideas are old fashioned, but after pounding brass for over 30 years I still think the other chap is entitled to operate as he wishes and he allowed a slice of the available frequencies in which to do so. Imagine the reaction from the phone fraternity to a proposal to eliminate them from the DX bands, which is just as silly as the proposal to eliminate c.w.

Finally, from a quick perusal of s.s.b. notes in various magazines it appears that many s.s.b. operators also belong to those states of affairs who like working DX, so the affliction is apparently not confined to c.w. alone.

—Chas. Harrison, VK7CH.

Editor "A.R.," Dear Sir,

I really must take exception to a letter from Mr. Roth Jones, VK3BG, appearing in October "A.R.," together with suggestions for dividing the 14 Mc. band.

From an Amateur with Mr. Jones' undoubted experience I consider the suggestions, and especially the leading "Abolition of C.w.," to be an affront to a greater percentage of the Ham fraternity than those using s.s.b.

Has Mr. Jones even listened in the 100 Kc. c.w. band of 14 Mc. where the peanut whistles coexist with the k.w.'s and nobody complains of QRM and I should say 99 per cent. of the QSOs convey intelligence from one end of the circuit to the other. Can it be said of any mode telephony transmission?

Seriously, is this an outmoded means of communication? and could phone exist under the same conditions?

It is certainly a fact s.s.b. is a useful and up-and-coming means of communication and need not be excessively expensive if one is satisfied with just the transmitter, receiver, test gear necessary to fully align this system,

could cost as much as the transmitter if the job is to be done properly.

Recently I have observed several s.s.b. stations (and yes, including the leading lights in the art) occupying as much as 70 Kc. due, no doubt, to faulty adjustment, as no one will argue that a properly adjusted s.s.b. outfit is excellent and overcomes many of the objections of a.m.

Regarding the abolition of the Morse test for the A.O.C.P. I think anyone of average intelligence and keen enough on hobby will have no difficulty.

Let's leave the c.w. boys (and girls) alone and let s.s.b. prove itself under conditions that offer no problems to c.w.

—H. N. Bowman, VK5FM.

★

FEBRUARY ISSUE TO BE LATE

Due to circumstances beyond our control, the February issue of "Amateur Radio" will be distributed late in the month.

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Amateur Radio, January, 1961

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2062	80	290 265	115 TAP 105	6.3 C.T.-2.25	25	3 2	3 1/2	2 1/2 x 2 1/2	2 1/2 x 3	2 1/2 x 3	VLN 31
2063	80	340 315	135 TAP 125	6.3 C.T.-2.25	29	3 3	3 1/2	2 1/2 x 2 1/2	2 1/2 x 3	2 1/2 x 3	VLN 31
2064	125	340 315	135 TAP 125	6.3 C.T.-2.25 6.3-2.25	16	4 15	3 1/2	2 1/2 x 2 1/2	3 1/2 x 2 1/2	3 1/2 x 2 1/2	VLN 34
2065	150	290 265	115 TAP 105	6.3 C.T.-	6	10	5 10	3 1/2	2 1/2 x 2 1/2	3 1/2 x 2 1/2	VLN 34
2066	190	320 265	125 TAP 105	6.3 C.T.-	6	7	6 8	3 1/2	3 x 2 1/2	4 x 2 1/2	VLN 34

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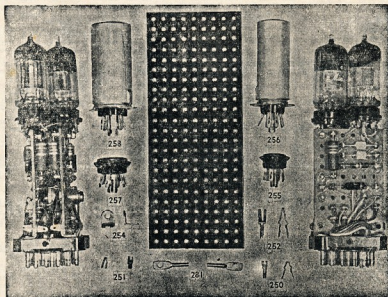
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NOTES

FEDERAL

I.A.R.U. REGION I DIVISION

The fourth meeting of the Region I Division, I.A.R.U. was held at Folkestone, United Kingdom, on June 13-17, 1960. The Executive Committee Chairman, Mr. Harry A. Laett, HB9GA, was elected Conference Chairman. Conference Secretary was John Charlroates, O.B.E., G6CL. Secretary of the Executive Committee. There was 40 delegates from 15 societies present, along with five members of the Executive Committee, six observers including I.A.R.U. Secretary, and a secretariat of six. Additionally, three societies were represented by proxy. A special programme was organised for the wives of delegates who attended.

The conference agreed that, in view of the International Telecommunications Union's intention to set up a panel of experts to study allocation methods, member societies shall pass along any official information that may come to them about the constitution of the panel, its policies and its terms of reference to Region I Division for further action.

The European Band Plan was continued in its present form. However, it was agreed that when the sharing by Amateurs of the broadcasting band 7050-7100 Kc. is terminated, the phone band at forty metres will be 7050-7100 Kc.

The conference discussed Recommendation 23 of the Geneva Conference, which recommended that administrations study whether the national Red Cross societies should be assigned frequencies in the Red Cross, but they were not in favor of any move to allocate frequencies in the Amateur bands to the Red Cross or any other.

The conference agreed that it was extremely important that member societies should continue and strengthen liaison with the governmental authorities in their own countries in order to preserve Amateur bands. Non-member societies should be encouraged to join I.A.R.U., and member societies should liaise with Amateurs in those countries where there are no Amateur societies to encourage them to form societies and apply for I.A.R.U. membership. It was felt that societies should encourage full use of all the bands by their members.

The conference also considered a number of internal administrative matters, such as adoption of a new set of rules for the Region I Division, co-ordination of contests and the like.

On the technical side, the conference recommended that Amateur Radio teleprinting in the Region use an international code number and 850 cycles frequency shift keying. The group also recommended that narrow band image transmission be permitted on the visible bands except 160 metres. No action was taken on a proposed set of standards for Amateur equipment.

A new executive committee was elected to serve until the end of the month following the next Region I Division Conference. Mr. Laett was re-elected as Chairman, Mr. J. Charlroates, secretary; Major Per-Anders Kinnmann, SM2ZD, vice-chairman; Dr. Jacques Simonnet, F6DW, treasurer; and Mr. Janes Zindaric, YU1AA, as secretary. Mr. Sheldan D.L.S. was newly elected as a member of the committee. It was agreed that the next conference would be held in London, probably in 1961, and it appeared desirable to hold a meeting earlier. The I.A.R.U. Secretary addressed the meeting on matters arising from the Geneva Conference.

EMERGENCY WORK BY AMATEURS

Amateurs the world over are alike in their readiness to assist the local or national government, the Red Cross and members of the general public in all sorts of emergencies, civil or natural. Here are reports from two I.A.R.U. societies on the work done by their Amateurs during serious emergencies of the past few months.

BELGIUM AND THE CONGO

What is believed to be the most extensive emergency operation ever set up by the Radio

Amateurs has been in progress since the beginning of July. When the Congo and former Belgian colonies were partitioned, the Europeans living in this country were threatened in their possessions and lives. Normal communications were disrupted, as well as inside the Congo and between Belgium and its former African possession.

The Amateurs were asked to step in and in a few hours several Belgian stations were ready to communicate with the Congolese Amateurs. The Congolese Amateurs had in the meantime taken advantage of the existing Amateur and small commercial stations existing in large numbers to organise an internal communications net which proved to be very efficient.

Very soon a repatriation operation on an enormous scale began, with an absolute priority for women and children, so the families were broken up, and an even more acute need for radio communications arose.

In the meantime, the number of Belgian stations used for the traffic to and from Congo had risen to about thirty, working mostly in the 1 Mc. band, in phone, with powers ranging from 75 to 150 watts and beam antennae. The number of messages rose to several hundred daily. The Belgian administration helped by setting up a tx and a multiple receiving facility using rhombics, and giving the Amateurs free use of the long distance telephone for the delivery of the messages.

As a result, thousands of messages have been passed, giving news from Congo to the anxious families, informing the fathers of the safe arrival of mothers and children. On several occasions, Amateur Radio saved lives by directing rescue parties to groups of Europeans besieged in farms or plantations, on to road-block columns of refugees attacked by the excited natives, and unable to raise directly the local authorities.

At this moment, the operation is slowing down a little, as the Amateurs stations left in operation in Congo become fewer.

In some places the local authorities try to impede the traffic, but the Amateurs are forced to operate under cover. In other places, which had been abandoned, Amateurs come back and resume operations.

It is foreseen that this operation will be continued as long as Europeans will live in Congo and the normal communications are not restored.

The U.B.A. has worked up to now as a message dispatching agency, and is at present set up to a powerful net, and is now being used to pass directly its share of the traffic.

The U.B.A. wishes to thank the Amateurs of the world who did their best to clear the upper part of the spectrum of the Congolese, and have very effectively reduced the QRM.

—Joseph Musche, ON4BK, President, Union Belge des Amateurs-Emetteurs.

CHILEAN EARTHQUAKE

During the weeks subsequent to the earthquake and seaquake of the South that went through 10 of our 25 Provinces, the Chilean Amateurs had certainly an extraordinary work creating a communication emergency net headed by the official station of the Radio Club de Chile, CE2AA, here in Santiago.

During approximately eight weeks about 50 CE Amateurs duly selected and authorised were working practically 24 hours a day, and for all means of regular communications which had been destroyed. This emergency net was set between the frequencies of 7000 and 7100 Kc. and it is not possible to recall even approximately the work that these CE Amateurs had. It was so tremendous a volume of activity that it is not possible to mention the help given by Amateurs, who saved lives, goods, and desperate situations.

Many foreign Amateurs helped by sending medicines and money to the Red Cross, to be distributed among those who needed it. We must mention among others our friend KSSKD who made a call to American Amateurs, many D.L.S. then assisted with donations. Also sent donations: HC1GF, W4FZC, K2UBG, WAS1B, OD5CL, KS1MF, Radio Association of Western New York, Radio Amateur Association Radio Ecuatoriana, Chatham Kent Amateur Radio Club (Canada), Evans Amateur Radio Club (Angola, New York), and many others.

The Radio Club de Chile most deeply appreciates the help that foreign Radio Amateurs gave to Chile on those days of misfortune.

—Luis M. Desmar, C1AG, Foreign Relations Secretary, Radio Club de Chile.

Though it is obvious that some of the work done by individual Amateurs will never fully come to light, we have a story from the Pittsburgh, Catholic, of July 21, 1960, of the service performed by one Chilean Amateur, Father Raphael de la Barra, CE2BN. The young priest had gone to a resort on the Volcan to check out a rig. When he made contact

with a Ham in Valdivia, 70 miles north, to get a signal report, he was told that a severe earthquake had just struck that city. Quickly he checked with another Ham in Puerto Varas, 70 miles south, and found that the southern town had also suffered an earthquake. CE2BN immediately warned the forty tourists at the resort, and most of them fled with the priest. The priest stayed overnight and remained on the volcano. The refugees were not out of the sight of the building when it was crushed by an avalanche, the nine scuffers buried under fifteen feet of rock. Seldom has there been a clearer example of the saving of lives through Amateur Radio!

SUMMARY OF I.T.U. MONITORING REPORTS

Here is a summary of unauthorised stations heard in the Amateur bands during the period November through April, as reported by the first of week. Seldom has there been a clear-cut example of the saving of lives through Amateur Radio!

Freq.	Call/QRA	Type of Sig.	Nationality
3768	EQD	Broadcast	Iran
7006	APF	Broadcast	Pakistan
7008	EFM1	Broadcast	Spain
7009	HM2F1	Automat. A1	Korea
7025	BZ257	FI Type 1	U.S.S.R.
7029	HLA6	FI Tgraphy	Korea
7019, 7054	—	—	—
7050, 7051	Peking	Broadcast	China
7050, 7051	Cairo	Broadcast	U.A.R.
7053	—	Broadcast	China
7057	—	Broadcast	Greece
7075, 7080	—	—	—
7085, 7090	Ionnina	Broadcast	Greece
7100	—	Broadcast	U.S.S.R.
14272	RIP	Manual A1	U.S.S.R.
14320, 14320	—	Broadcast	U.S.S.R.
21004	VN48	Automat. A1	Australia
21080	OLU	FI Tgraphy	Czechoslov.
21305, 21398	—	FI Tgraphy	U.S.S.R.
21414	EPD	FI Tgraphy	Iran

ANNIVERSARIES

Further extracts from the I.A.R.U. Calendar include the following:

Our heroes in beach settlements to the Wireless Institute of Australia, which finished a half-century of service on March 10, 1960!

N.Z.A.R.T., N.R.R.L., E.D.R., S.S.A. and S.A.S.C. have recently completed 30 years of membership in the I.A.R.U. The presidents of I.R.T.S. and P.Z.K. were also admitted thirty years ago. J.A.R.L. originally became a member of the I.A.R.U. 25 years ago. We wish these societies continuing prosperity and success in all their endeavours.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. Cnt- No. rics	Call	Cer. Cnt- No. rics
VK6RU	2 251	VK6KW	4 202
VK6MK	4 243	VK6WH	1 182
VK6JN	4 243	VK6VB	1 176
VK4FJ	21 219	VK3GB	50 171
VK3WL	14 211	VK4RW	23 164
VK3ATN	26 204	VK3EE	10 163

Amendment:

VK7LZ - 36 113

C.W.

Call	Cer. Cnt- No. rics	Call	Cer. Cnt- No. rics
VK3KB	10 253	VK4HR	8 218
VK3CX	26 270	VK3XU	48 213
VK4FJ	29 262	VK7LZ	17 212
VK3NC	18 236	VK3UR	16 210
VK3FH	15 236	VK3YL	39 203
VK3BZ	6 222	VK3RX	23 195

OPEN

Call	Cer. Cnt- No. rics	Call	Cer. Cnt- No. rics
VK2ACX	6 282	VK3BZ	4 231
VK6RU	8 265	VK3HG	3 225
VK3KB	10 253	VK3UR	16 210
VK6MK	74 247	VK7LZ	23 223
VK3NC	77 238	VK3XU	61 221
VK4HR	7 233	VK6KW	13 216

are interested in the Directory Awards, started by William but now being published by Box 385, Bonita, California. divided into twelve sections, to revise the book. It covers awards from over 50 countries. including first class postage subscription to the revision are issued four times a year. For renewal subscriptions are sent class mail.

has given many VK stations contact, is closing down a long will return to his former Hong until the end of Jan- he will return to the U.K. tions who still owe him a w address for direct mailing gts. Mess, R.A.F., Little Sai

VK5NO, VK7SM and VK2DI
 hy of a DX Contest Award
 mmittee of the Central Radio
 U.S.S.R. The operators of
 s concerned have each re-
 on and certificate for their
 test.

Amateur Radio Club advises members for obtaining the C. These are that any duly licensed Radio operator is eligible. No fee is required and no cards are necessary. Furthermore, a letter from your QSL manager certifying that you are in possession five or more QSL cards should also list call sign, frequency of emission and freq. If you are a member of any club you may have any letter with your signature and a return address. Forward claim to the Awards Committee, c/o ARRL, at appropriate address.

g November were VQ9TED
very limited number in each

be minded VKs, another new
it is the Turin Diploma for
least three Turin/Italy sta-
tails from the undersigned.

Ray VK3RJ and XYL were
U.S.A. and Europe, they
GI and now GM. After this
three weeks. Will commence
K late December. Ray re-
been entertained by HB-
K (Frank Robb, former well
now almost blind), E19Y and

of a new address for the Irish Radio Transmitters' QSL Bureau, 24 Wicklow Road, Dublin. The Hon. Secretary, O'Connor, EI9U, also mentioning EIs are active on a.s.b. EI4J, EI8P, EI4N, EI7D and will be on shortly.

k, BERS195, Act. QSL Mngr.

HUNTER BRANCH

61 chaps, wonder how many usual resolution to obey the An improvement is certainly best to "Amateur Radio"—tributors—bless them all.

meeting was attended by VKs 2RJ, 2AYL, 2QB, 2AKX, 2ZK, 2AQR and associates Finch, Roth, Munn and Davis. Keithing one of his Booragul High Ian Forrest. Pill-pounder, sports his new call sign—VK-ian is already getting ready to obtain a full-blooded cleaning by the furrowed brow he must be studying for his

the evening was President
 ight his crystal set with him
 crystal locked converters and
 doubt the attendance would
 r but it was rumoured that
 eak on things s.s.beerish. I
 e worked, in fact Varley 2SF
 e over it but we were all
 when he did not give the
 call. If the Editor will in-
 I will use it on phone calls

at the appropriate times. (As a New Year's resolution, we have decided to double all existing salaries.—Ed.)

In the absence of our bed-ridden Secretary and amnesiac Vice-President, Stuart ZDFD did the honors and read down apologetic letters from KEA and Max McLoughlin. I don't know if it is only a coincidence, but it seems that Gordon loses a bit of grip on life at the end of each year as the last Nov. meeting he was in. I think he was a little bit off when he does for the Annual Dinner and Field Day pulls him down. This year we will put him on clinic emulsion a few months prior to the meeting. I don't know if that will help or haul to 2AC. Yes I know, Leo is a gynocologist. The meeting disbanded after Keith 2AKX thanked the speakers, yes there were two, the other being Stuart ZDFD, who disappeared. The meeting was over and we were built in a bar-cake-tin.

When I was leaving, I still heard the voice of 25F coming out of Llonel's speaker; wonder if it was the same voice over the radio. I think the last time I will be mentioning 2ZDF as Stuart should have his full call by next time of writing--congratulations, and if you behave yourself and have an alarm clock you will be able to hear him. I hope that Stan 2AYL is still trying to get the Sydney boys to talk to him on 144, without success. During the month all t.v. sets within a mile radius of the city have been ordered to be turned on when the local boys held a fox hunt. Les 2RJ was first home, followed by 2ZDF, whilst Harold 2AHA is yet to arrive, however I believe he got a bulls' head as a consolation prize. The boys are back in the States after a year from a trip to Japan, so he expressed the wish that they did not hold the event near his place as he gets blamed for all t.v. troubles in the area. But I don't think it is as it is close to Gordon 2CL, who is never troubled with that disease. I believe the next hunt will be on Bill Hall who will christen his Gosford prize by giving a barbecue. Some

Did anyone hear a certain Kotara gent using his XYL as DX-bait the other day? Don't know who it was myself, but methinks Romeo and Juliet should get their DX-CC in record time, judging by the answering wolves. Someone also told me that somebody was tossing up whether to purchase a new batter or alternatively a Collins net-filter.

As usual the Gosford turn was an excellent meet, but I still wasn't able to hear the 2WI broadcast, however the weather was perfect and those noticed from this neck of the woods were 2CS, 2DT, 3CN, 2FJ, 2ZL, 2KQ, 2AYL, 2AKX, 2XT, 2SF, 2RZ, 2ZMO, 2AE, 2ANL, 2ANU, 2VU, 2FP, 2BZ, 2ZJR and 2QB. Bill 2XT won the 7 Mc. scramble and had the lowest mileage in the morning 144 fox. Mrs. 2RZ won the ladies' quiz.

During the month the official station, 2AWX, was conducted by 2CS, 2SF and 2AYL. Copy has not been good and on two nights nothing was heard at all, but only one night was due to conditions. To date there is no information re the January meeting, however information will be given over 2AWX, so until then, cheers.

The weekly net on 3640 Kc. usually involves about 10 stations. It is conducted by 2AFY, the Gosford Radio Club. An interesting point is that four stations have the facility for s.s.b. The recent sudden increase here can be explained by the ready availability of good gear from W. land.

Alec 2AAG uses his sideband rig on a.m. on Monday nights and it sounds very fine. Geoff 2ALI is interested in working Sydney stations on 144 mega. He has a modest set-up at his North Gosford hilltop and receives signals well on a three-element beam. Ken 2AFH and Frank 2AFJ, from the heights of Man-

grove Mountain, should manage a few good contacts when they have time to invade that band. At present they are busy picking oranges and working 3.5 and 7 meg. bands.

Ex-patriate Rex ZYA was heard in our net recently, the first time since moving to Sydney. George ZADZ immediately picked up the dust from his 3BE transmitter. This should put North Gosford on the air twice as well as at present. George ZADZ, has his AT5 working and at the writer's location it sounds very loud and clear. Nevertheless, George has his lens of t.v.i. I do hope he's disappointed. Len ZAMU is back from his leisurely trip to Japan, complete with a lot of two electronic mementoes. Had a wonderful time.

The Gosford Field Day held at the Sailing Club was very well attended again this year, 88 Hams being present and many associates, wives and harmonics. The weather was tailor-made and ideal for the launch trip, a two-hour tour of Brisbane Water. 16 cars lined up for the 2 mx hunt. Prizes were given for the first, second, third, fourth and fifth. The first man in the ladies did a very well job of catering. Other attractions included the 7 meg. scramble, display of American equipment, and quiz contests for Hams and XYLs. Hope to see you next year again folks.

Your scribe, 20N, is involved in some mental turmoil over T/R switches. Are they better or worse than antenna relays? Can a relay be made silent? Can a simple electronic switch be designed, without losses at higher frequencies? The answer will come in due course.

This month our club at Newtown, 2ATQ, has for the first time taken part in a field day. On Nov. 20 at Gosford we entered the 7 Mc. scramble with a whipped-up portable. Our 11 contacts weren't quite enough to win that super new mike, but we're hoping they'll have good prizes ready next year.

Home again this week, we started out on 20 mx with Lee's rx (2AXK) and a Zepp aerial. First contacts were with Laurie 2AMB, Muriel 2AIA, then we were 5/8/9 in 3JT's shack; couldn't find DX anywhere. It seems that we are on at the wrong time of day, just before 20 and 40 comes good.

Our regular friends for the year on 40 have been Bob 2IN and Allan 2RX/M, with an occasional call from Bill 2ZL, Bob 2AQR, and John 2ASC.

One Sunday afternoon we visited Dural. Dave ZEO, being there, were able to make full use of the 7 and 14 Mc. rigs. We worked our first Z calls, and ZLIATW gave us 8 and 7. John ZASC arranged a trip to Kingsford Smith Airport, where we inspected the v.h.f. control tower, teletype equipment and air traffic control centre. A fast run round the 'drome on the back of a fire truck was an added attraction!

Everyone was pleased with the fine article about the club in the weekly women's paper (23/11/60), but we hope you'll excuse those inaccuracies we weren't responsible for.

Just a reminder, fellows. If you hear us on 40 or 20, give us a yell (a.m., p.m., c.w. or s.s.b.); QSOs are hard to get these days. If that new antenna ever goes up we'll have the R.I. out in no time measuring anode volts and current, but till then listen carefully to any faint het whistle—it might be us!

Happy New Year, lots of DX and 73 de Mike (and others).—2AXK.

Well, the 1960 R.D. Contest was won by VK7 again! Congratulations VK7. Who had the highest State log average! VK3 Division! Congratulations to those who stayed up all night to those who went to bed, to those who came on on Sunday morning when they wouldn't be bothered with t.v., and to all who participated in the R.D. Contest, thanks and congratulations. Incidentally, the 1961 R.D. Contest is not far away—be in it?

My personal thanks to 3IZ and 3ZKO who helped me battle with an incomplete tx to work the minimum five contacts. Did we have fun? Have you ever put 240v. a.c. on your filaments by mistake? That's the stuff fried Ham is made of. Anyway, see you in August this year.

A resounding success! 137 filled Scotts Hotel (or was it vice versa?) and a jolly fine time was had by all! Congratulations to Doug Bowie, VK3 Council, and all others who helped make this the event of the year.

Official guests included: Senator Hannan, representing the Postmaster-General; the Deputy Director of Telecommunications, Mr. L. Pear-

son; representing the Superintendent Radio Branch was Mr. North; Royal Melbourne Technical College was represented by Mr. MacKay; Mr. D. McDonald, the Director Technical Services, Australian Broadcasting Control Board; the Federal President, W.I.A., Mr. M. Hull; VK3 Division Federal Councillor, Alan Elliott; VK3 Division President, David Wardlaw; VK3 Secretary, Michael Owen; Keith Roget, VK3 Treasurer, and Fred Ball.

Senator Hanson delivered a message from the Postmaster-General (printed in full elsewhere), and many people were seen being ear-bashed, and were seen ear-bashing Mr. Arthur Tinkler, our representative on the Ad Hoc Committee.

The "give-away" prize, a microphone, was won by Geoff 3AJX; he's already using it to good effect, I believe there were dancing girls, too! Anyway, all in all, a very fine business Dinner.

VK3KI on the AIR!

More congratulations are due to that willing band of workers who have put so much effort, time and energy into getting our official station on the air from the zone again. The broadcasts had been non-existent for some people during November, due to sunspots, but with the mighty half-kilowatt roar from 3W1, Old Sol has some competition now.

We are all indebted to Keith 3YQ for keeping 3W1/P on the air each week; Keith has done a fine job, and we are all grateful for his efforts. Thanks, Keith!

INSTRUMENT LIBRARY

The VK3 Divisional Instrument Library has been enlarged and re-organized. The librarian to Michael 3ZCZ, please contact him if you have any requests or queries.

NEW YEAR GREETINGS

Well, having read all that, can anyone say VK3 Division is inactive? Don't forget all the Conventions held-State and Zone; don't forget the Jambores; don't forget the tx hunts; the v.h.f. scrambles, moon-bounce, satellites, and most of all—don't forget the fine work that led to the setting up of the Ad Hoc Committee earlier in the year; etc., etc.

I feel that 1960 was a very ventful year and much was achieved. There is a lot more to be done yet!

Best wishes to you and yours for 1961, and best wishes to the W.I.A. for the coming year, 73 to Amateur Radio. May it flourish and prosper in the future—it will, if we all want it to!

To my mind the most important part of the Amateur Service is the "service" part. Will you offer to serve VK3 Division in 1961? Please, we want some more willing hands this year; if you are offered a job, please accept it, and if you are not, then please offer to help. We have many jobs to do and the same old crowd is doing the work still. It is to these men, and their XYLs, that the sincere appreciation of all Victorians in Amateur is due, for all the work they've done in the past year. Also our sincere thanks to all Amateurs who have supported them in their efforts during that rather momentous year—1960. Thanks, Michael.

SOUTH WESTERN ZONE

We are happy to be again the holders of the Klansman Trophy. Now is the time to start thinking of the next year's work for if we don't keep moving forward, we go backwards. There is no standing still. Perhaps the next thing to think about is the National Day. Now that we have our W.I.C.E.N. well under way what about making this contest a try-out

of our emergency gear as the sponsors of the contest intended?

The Zone Convention has taken place quietly. Other attractions reduced the attendance somewhat, but the smaller the number, the better the eats. Members of the Geelong Amateur Radio Club were at the clubhouse to meet and refresh the members on arrival. Among the early arrivals were Bill 3XE and XYL Betty, and Brian 3ADV. Brian's family, but Kevin 3AKR just made it for the eats. Bill 3BU had his new Geloso tx and the Eddystone rx set up in the room to work the incoming mobiles.

The meeting later had a full agenda sheet, one item of which was a request from State Council inviting representatives from the Zones to attend Council meetings. Give this some thought, chaps, for if Council doesn't hear our views, can we blame them if we don't get a go? Also the W.I.C.E.N. operators were empowered to elect their own officers each year and to conduct their own affairs. Following the meeting, Dick 3ABK and Peter 3ZAV entertained their audience with their 1960 Mc equipment and the moon-bounce project. This rig was shown in "A.R." Oct. last.

Later the W.I.C.E.N. Group met and elected Jim 3ABT as zone co-ordinator and zone control. Bill 3BU, who is now Eastern Group Control, gave a very interesting resume of the early days of emergency work in the zone.

After lunch on Sunday, the Eastern Gardens was the setting for the afternoon events. The best mobile prize went to Gordon 3AGV with his ATRB. Brian 3ADV had walk-over in the 80 mx tx hunt and now holds the G.A.R.C. trophy. Brian also won the all-band scramble in spite of some nervous work on v.h.f. As usual, the ladies had the final word with a luscious afternoon tea and we thank them very much. Thanks also to VK3 Division and to Mr. A. Bent for prizes donated and a very large bouquet to the Geelong Club for their effort which resulted in a profit on the weekend's work. Venue for the next Convention will be Hamilton or Warrnambool, next March.

These notes have not been strictly confined to members of the zone, but have included doings within and without which, I hope, are of interest to members. Recently in QSO with a well known resident who has been inactive of late, mention was made of his appearance in the notes. "Yes," he said, "I did see in reference although I am not a member of the Institute. Wouldn't take much persuading though. All the persuasion needed was the proposal form in the next mail. So perhaps amongst the chaff—a grain of wheat, but still carries on regular scales across the Pacific on 40 mx sideband. Neil 3HG has gone further and worked W and ZS on 80 mx s.b.k."

Congratulations to Jack 3CS, who broke the ice on 40 mx c.w. with a zone station. Chris 3AXU has come up again with a n.b.f.m. adaptor to the ART and reports that it works really on certain ex-disposal mobile rigs. What next will you have on the ART Chris? How about a wooden tap for base station operators in the smoke tent?

Well, the dead line draws nigh, so we wish you all the very best for 1961. Happy New Year and best DX de the South West Zone.—SAKN.

EASTERN ZONE

The broadcasts from the new 3W1 tx have been very well received over most of the zone with signals S9 plus here in Sale and the 3W1 tx could be heard on Super-corded QRM and "unmodulated carriers" which magically appear on 7146 Kc. between 1030K and 1100K.

6 mx openings were recorded during Nov. on 6th, 11th, 15th and 27th. On 15th, 2AXI was heard on 50 Mc. and 2000K until well after midnight. VK4s were logged and two VK5s, working each other, were peaking at S9 and apparently unaware that they had an audience over 600 miles away. On the evening of the 14th, signals from 3ZJE were heard by 3ZDP off the aurora to the east.

A welcome is extended to Sid, WIA-13096, a new s.w.l. member of the zone. We hope to have him on the road to at least a Limited License before very long. SABC is back on 5 mx after a short journey into the field of hi-fi and tape recorders. He is at present mumbbling about some sort of zone control, but his mumbblings are so unreadable, however, that it sounds as though he may be losing his carrier!

Two VSA's have been spending a short time in the zone, but unfortunately were unable to spend time on the air. WSAFT and WSBDO were members of the U.S.A.F. mission at the East Sale R.A.A.F. Base and were operating KWM-2 35Ks transceivers driving 30S-1 linear amplifiers on point-to-point circuits. Anyone who has seen these rigs will be impressed. The equipment will be more than favourably impressed. Designed mainly for Amateur use, these rigs have very little SSB in them, but more than s.s.b. Ham gear, the exciter features a mechanical filter and has two 6146s in a piecemeal final capable of being loaded to 175W. There are two frequency ranges, 2 to 30 Mc. The only feature that didn't impress me was the db. value—£600 plus! The final linear amplifier uses a 6X4 and a 6X5.

3ZDP is working on a new 2 mx t.v.i.-proofed tx with a QQ606/40 final and hopes to have it warmed up in the next few weeks. During a break in the building programme he managed to get into Melbourne for a short time from Sale on Sunday evening, Nov. 27, after rounding off a DX session with a fist-full of VK4s.

Now an appeal to zone members. Please let your corvo, have some news to boost these notes, particularly on the lower bands. Cheers for now and best DX for 1961.—ASAW.

QUEENSLAND

TOWNSVILLE

As we stand on the threshold of a New Year, one ponders and tries to think what it has in store for us. Will it mean more relaxing, or more work, or more fun and stand firmly on all sides, will our voices be heard? Will there be relaxing of present red tape and that our frequency of 50 Mc. band, also may be able to transmit third party messages of unimportant nature? Surely if one of the operators who we hold so dear, and who many thousands of operators can do this and foster good will amongst their near neighbouring countries, surely in this enlightened age our powers that be can do the same.

The roll up at the last meeting of local radio club was the poorest for some time, but those present soon got down to the main business to make this year's final get-together on Dec. 10 the best there has ever been.

Paid a recent visit to the boys in the neighbouring town of Ayr and met a welcome even asked questions when I attended the A.O.C. classes. Claude 4UX proudly showed his log of rare DX that was about, while I was away on holiday. Nice juicy ones like Nepal, Reunion Is., Pitcairn and hosts of other call signs that I never seem to hear. His local Z boys made weekly contacts on 44 Kc. 4UK and 4ZAK. They are easily worked on 6 mx.

S.B. seems to have a couple of the locals elsewhere and is making the necessary modifications. Owing to change in my work,

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enough I would eventually get the low-down on this s.a.b., but I never thought it would be on the air. When I called Keith, I was in contact with Comps 5EF on the call-back, he said, "There is no doubt about this s.a.b. signal. Comps is just on the verge of making the signal, trickled out like water." Well, who would have thought of that, I have been trying to receive these s.a.b. signals from the time I was in the W.A.S. When I rang up the plumbers and my receiving point has been moved to the suitable room in the house for a s.a.b. Now I am further away, I want they say, although I must admit that it is a bit annoying with everybody knocking at the door and saying in an embarrassed voice, "Is that your ham?" My mother-in-law who has dropped in for a short visit of a couple of years, told my grandson, with a finger on his mouth, that she thought I was in my right place, and should have been there before, so apparently she has the low-down on s.a.b., but so far I have only heard the trickles, trickles and no s.a.b. Never mind, I will best this s.a.b. yet.

Well, here we are again, another New Year, another set of new resolutions to be broken, and a grand old hobby still as strong as ever. Apparently I am still going to be writing these notes in 1961, although only supposed to be filling in for one month, until a substitute is found. Therefore, on behalf of the VKS members and Council, I extend to all members, wishes for a happy and contented New Year. May you all secure that which you are looking for and may it turn out to be as good as you hope it will be. Try and accept the mail that is sent to you, and if you cannot manage to do that, then don't do anything that will react against it. It's been a pleasure writing the notes, and I am still put up with them in their present form, then I will continue to try and amuse and interest you. Oh, I nearly forgot the Editor. Here's the Editors of the magazine past and present, may their red pencils grow shorter and shorter, and their patience longer and longer, and let the motto for 1961 be more space for VKS. Gersch.

Am told the Editor is contemplating a trip to VK3 in January to give all Z calls their chance for W.A.S. Hope he has a hot time of it, and that he will be back, but he would like to go. Regretably did not say where.

— — — — —

WESTERN AUSTRALIA

Here we are again at the start of another twelve months of Amateur Radio. I trust we can all look back again at the year 1960 and New Year, and can we look back at 1960 and see what part we played in making the hobby of Amateur Radio more interesting to newcomers and in making the W.A.S. grow by our individual support. Let's make 1961 a bumper year in the attendance book at the meetings and at a close visit.

1960 came to a close with quite a lot of activity. What with portables, mobiles and not to forget the 40 mx scramble, which went off to a flying start on 19th Nov. The first to be heard calling CQ was Jim 6UW. The strong stations were 6AD, 6BU, 6CP, 6CW, 6CO, and 6KW just to mention a few of the stronger stations. The stations were in the air which filled the band to capacity and was quite a good roll up. All logs were to be in the box by 25th Nov. It was disappointing to see that only eight logs had been submitted by the late arrivals. Jack 6BU and Joe 6CO were disqualified for transmitting during the five minute period, but I think Jack because you stood to win the mobile section as you were the only mobile. Harry 6ZZ and Francis 6WD were the only portable stations and Francis was the only log. The only station heard on c.w. was Mal 6SM and he never submitted a log; he lost his mike, then his pen, when he signed off at 7 PM. The logs for which the logs received were Jim 6RU, 91 points; Les 6WL, 82 pts., and Pat 6PH, 71 pts., so congratulations to Jim on winning the 40 mx scramble, which he has long for, he certainly tries hard and leaves nothing to chance. In the first three minutes of the second hour, Jim had seven contacts; how about that.

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Well Francis 6WD finally landed up in hospital in search of his voice. He has been heard on the air for some time now in a whisper and has not been able to get his voice back. Francis, the rest will do you good because you will be able to hear him on the air, it does not do your throat any good and I think the doc knew that. So hurry up and QSY because we miss your melodious voice after all.

Jack 6BU has really found his feet again, in spite of being heard in the East Perth cemetery in the last year, and on the last every week-end talking about mobile gear and transistorised converters which he has working very well now that he has his oscillator working on one frequency only. Jack and Bob 6RW were dashing around Perth madly in QSO mobile in spite of the fade out. Bob was later heard, and George 6AB, although he had left his modulator driver at home. His modulation did not suffer even though he was only modulating with a 6AQ5. The Wednesday lunch-time ragchew on 40 mx is becoming very popular; stations heard include 6VM, 6BU, 6RW, 6WD to mention a few regulars.

Many S.W.s. will be pleased that the Department has given its blessing on the Slow Morse and has allowed us to use m.c.w. This will greatly assist the club members in receiving on a commercial shortwave set without a f.b.o.

Bill 6UY in Narraginn the other week. Tom is one of the very unlucky chaps who lives in the deep fringe area of i.v. and is experiencing t.v. in its worst form. He really hates it, but he is not giving up, he is at most times is down to five microvolts, so Tom has his work cut out. I think people who want to put up with looking at t.v. with the test of a signal should put up with all that goes with it. Still best of luck, Tom, and good DX when you can. 73, Pat.

TASMANIA

The highlight of our Institute activity in the South during November was the Picnic and Picnic held on Sunday, 20th. 22 cars and about 100 people took part. The tx's were hidden and operated by Alan 6CF and Geoff 6ZAB. The picnic was a great success, a reference this time. In fact, the gear was operated from TMY's shack, just to fool the purists. Barney 6ZAB was the only one to unravel the mystery. The Picnic held afterwards on Cremorne Beach was a great success. Most members have made remarkable recoveries from the bug, but the two portable parties still claim that they feel the effects of that mighty struggle. We were pleased to welcome Alan 6ZAB and Geoff 6ZAB who arrived near the end of proceedings in the afternoon.

Two comments come to mind about the day's activities. The first is the undoubted success of the 144 Mc. boys in tracing the tx on that band and the comparative failure of the hunters on 2.5 Mc. band. The second comment is the poor response to the opportunity to operate mobile. As we hope to conduct regular days such as this one, the points raised in both comments should be given serious thought. As a result of the day's activities, 27/10/60 has been added to the fund for our new clubhouse.

The "CQ" Contest, phone and c.w., is over. The c.w. boys had by far the better of the two week-ends and several new countries were worked including the UK, and the 1000 points was very near to his DXCC now. We welcome Brian Eyre to full membership of our Institute, and also out the call to ZBZE. For you DX chaps if you should hear the prefix EP, well jump to it if you can. It belongs to Iran, which has just recently reversed its policy and is now allowing Amateur operation.

Bill 7TY will be operating portable from the Port Davey area on the middle of January for a period of about five months. Keep an ear on the 80 and 40 mx bands for him. During the summer months, as from the New Year, the portable parties will be there will be several operating and anxious for contacts. Doug 7AB should be heard from New Norfolk by the time that is in print, Jack 7JB has the time to come to Hobart, he will have to limit his phone power to 80w, until he obtains a new and bigger modulation transformer, as the present tranny is being saturated.

Nominations for the next Council of the Institute will soon be called for. Consider deeply if you wish to serve on the Institute as a member of Council. It is a rewarding service.

Very 73 to you all for the holiday season, from Ian 7ZZ.

NORTH WESTERN ZONE

A new year has begun; I wonder what it has in store for us. I trust everyone had an enjoyable Xmas and made all the appropriate New Year resolutions, giving due regard to our great hobby.

Our last meeting for the year was held at the usual QTH and was attended by a goodly number. The most important piece of news was the completion at long last, of the radio units for the Burnie Fire Brigade and I take this opportunity on behalf of the Zone to thank everybody who in any way whatever assisted in the project. Supper was as usual, and zone funds benefited proportionately from the sale of a rare collection of electronic equipment. The meeting closed with everyone wishing everyone else all the best for Xmas and the New Year. A Tx Hunt was discussed but deferred till later in January. When going to report the results of the R.D. Contest were not to hand, so will have to comment on that later; I hope Tasmania was successful. It was—E2.

George 3AHN, accompanied by his XYL, visited VK7 land during November and no less than five Hams were present to welcome them, including Lance 3ZA (who was also visiting). The Hams and George and I truly made sure they left again a fortnight later without removing too much of our island. I believe they will be back next year.

Dennis TDR has deserted us at Ulverstone, but I am thankful to say he is still within the Zone, having only moved to Burnie. Max 7MX was heard working from Tarrareah at end of Nov, the portable gear was working OK. Max I guess will be working DX on it soon. Reg 7RL has been heard working with his "low power" rig. Glad to hear you can take an active interest once again, Reg.

Well, cheers all till later—all the best of everything to everyone for the ensuing year.

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